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ABORIGINAL MENTALITY.[1]

By H. K. FRY, B.Sc., M.D. (Adelaide), B.Sc., D.P.H., Dip.Anth. (Oxon),

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THE study of the mentality of the Australian aboriginal has a strong academic interest and at the same time has a practical and vital importance, because this ancient race is dying out and the chief factor in the present process of extermination is psychological.

One of the accredited methods of assessing a person's character and ability is to obtain the opinions of his various acquaintances. It may be useful, therefore, to approach the subject of aboriginal mentality by reviewing briefly the opinions of various observers.

[1] Read at a meeting of the Australian and New Zealand Association for the Advancement of Science, Melbourne, January, 1935.

Captain Dampier[5] considered that:

The Inhabitants of this Country are the miserablest People in the World . . . and setting aside their human Shape, they differ but little from Brutes.

Captain Cook[3] considered:

In reality they are far more happier than we Europeans, being wholly unacquainted not only with the Superfluous, but with the necessary Conveniences so much sought after in Europe; they are happy in not knowing the use of them.

Major Mitchell[24] complained that:

Even in the scowl of the "patient ox" I have imagined an expression of dignity, when he may have pricked up his ears, and turned his horns towards these wild specimens of the "lords of creation".

Professor Gregory[15] remarked:

With East African negroes, even the best of them, I had always the feeling that they were children and had to be treated as such . . . . But after a few days with our Dieri and Tirari guides, I always felt towards them that they were men and brothers. They had much quiet dignity, and their humour and point of view with regard to things in general were like those of an intelligent but untrained European.

Willshire[35] states:

> They are ungrateful, deceitful, wily and treacherous. They are indolent in the extreme, squalid and filthy in their surroundings, as well as disgustingly impure among themselves.

Gason[14] states:

> A more treacherous race I do not believe exists . . . . Gratitude to them is an unknown quality . . . they will smile and laugh in your face, and the next moment, if opportunity offers, kill you without remorse . . . . Kindness they construe into fear . . . . They possess the three great virtues of hospitality, reverence to old age, and love for their children and parents.

Eyre[8] considered:

> I do not imagine that his vices would usually be found greater, or his passions more malignant than those of a very large proportion of men, ordinarily denominated civilised . . . these people . . . on many occasions cheerfully underwent hunger, thirst and fatigue to serve me . . . . During the three years that I was resident at Moorunde, not a single case of serious injury or aggression took place on the part of the natives against the Europeans; and a district, once considered the wildest and most dangerous, was, when I left it in November, 1844, looked upon as one of the most peaceful and orderly in the province.

Taplin[34] was so convinced that the aboriginal is entirely lacking in inventive faculty that he considered the richness of his language in grammatical forms to be evidence that the race "must have descended to their barbarism from a state more nearly approaching civilization". Taplin also was surprised on one occasion by hearing a native defend his native institutions by a thoughtful argument.

Sir George Grey[16] maintained: "They are as apt and intelligent as any other race that I am acquainted with." He also remarked upon the transition from indolence to alert energy which is exhibited when a native sets out on a hunting expedition.

Curr[4] considered:

> The Black, especially in his wild state, is quicker in the action of his mind, more observant and more self-reliant than the English peasant, but less steady, persevering and calculating. His mind in many respects is that of a child. In our Aboriginal schools it has been found that the pupil masters reading, writing and arithmetic more quickly than the English child . . . . At this point, however, he stops . . . many of us agreed that the schooled generation was not an improvement . . . . As regards courage he is inferior to the White man, for though his nerve is superior, his resolution is less . . . they discriminate between right and wrong, though unable to formulate the difference.

Dawson[6] stated that he had formed "a very high estimate" of the intelligence of the aborigines and that the opinion of the government inspectors of schools was that:

> Up to a certain age the aboriginal children are quite equal to those of European parentage . . . . Indeed the former excel the latter in those studies which depend on memory and power of imitation; but, on the other hand, those branches of knowledge which require abstraction and in which a greater demand is made on the reasoning faculties are learned by them with difficulty. In reading, writing, spelling, singing and geography they distance white children . . . the accuracy with which verses are repeated being very remarkable; but grammar and the higher branches of arithmetic are very puzzling to them.

Many writers refer to the native school of Ramayuck heading the Victorian schools in the State examinations for three years. Howitt,[18] however, states that the Reverend Kramer, who conducted the Ramayuck Mission, informed him that:

> The labour required to bring them up to the necessary standard and keep them there was so great that no possible inducement would cause him again to undertake it.

Howitt thought of the native child:

> That his mind develops quickly and perhaps fully up to that of a white child of twelve or fourteen, but there stops.

Captain Tench[32] stated:

> I do not hesitate to declare that the natives of New Holland possess a considerable portion of that acumen, or sharpness of intellect, which bespeaks genius . . . . The tranquil indifference and uninquiring eye with which they surveyed our works of art have often, in my hearing, been stigmatized as proofs of stupidity and want of reflection . . . but on subjects in any degree familiarized to their ideas they generally testified not only acuteness of discernment, but a large portion of good sense . . . . If it be asked why the same intelligent spirit which led them to contemplate and applaud the success of the sportsman and the skill of the surgeon did not equally excite them to meditate on the labours of the builder and the ploughman, I can only answer that what we see in its remote cause is always more feebly felt than that which presents to our immediate grasp both its origin and effect . . . . Of their intrepidity no doubt can exist; their levity, their fickleness, their passionate extravagance of character, cannot be defended. They are indeed sudden and quick in quarrel; but if their resentment be easily aroused, their thirst for revenge is not implacable . . . . When they wish to deceive, they scruple not to utter the grossest and most hardened lies. Their attachment and gratitude to those among us whom they professed to love have always remained inviolable, unless effaced by resentment from sudden provocation; then, like all other Indians, the impulse of the moment is alone regarded by them. Some of their manufactures display ingenuity.

Instances of the "placability" of the natives are recorded by Mrs. Smith,[30] Hinkins[20] and King[11] (the survivor of the Burke and Wills expedition) proving that the aboriginal can return good for evil. The most outstanding example, however, is that of Eyre, referred to above, who won the confidence and respect of the tribes on the Murray River and in this way overcame the hostility of the natives against whom punitive expeditions had been unavailing.

Temperament and Character of the Aborigines.

The fair assessment of the character of an individual is difficult enough, that of a community more so, and most of all that of a human race. The opinions quoted above are very diverse, the personal approach of the observer being all-important in his experience of the good or bad qualities of the aborigines' character.

Appetites.—The aborigines' appetite and capacity for food is enormous, yet a man who consumes more than a relatively small share of any food which comes his way when he is in touch with other members of his group is disgraced. The exigencies of his environment cause him to lead a hand-to-mouth existence, yet he is not altogether improvident. The Misses Chalmers, of Macdonald Downs,

have informed me that the Iliaura natives of Central Australia store grass seeds in wooden vessels in caves for several months; that the natives do not like to go out for food every day, so often keep food for the next day; that the leaves of a vine, *pulka*, are collected, rolled up, kept for about a week and used as a medicine; that berries are collected green, covered with leaves, sprinkled with water every day, and kept for weeks until ripe; that the native oranges are collected green to save them from the birds, buried in holes in the ground between layers of leaves, with a small aperture open to the setting sun; that three varieties of *Solanum* berries are dried and kept for months; and that branches of mulga are broken down to hasten the ripening of seed, the seeds being collected about a week later. Grey[17] mentions stores of by-yu nuts, and a custom of breaking off the heads of grass trees to promote the supply of grubs. Howitt[19] mentions a store of two bushels of seed in the Dieri country. These natives also stored seed cakes and fish dried and ground to a powder.[7] Natives of the eastern plains cut grass, piled it in heaps and collected the seed. Eyre[9] stated that the blacks husband their stocks of food carefully when travelling in poor country.

The sex appetite of the native is not defective, nor is his potency weak, though Havelock Ellis[10] considers this to be the normal condition among savage people. I have been informed from a credible source that a young native is capable of repeating coitus four or five times in a night. Yet a man who runs after women too much is despised by the natives and is not admitted to the inner secrets of tribal lore. Young men at initiation are warned against such conduct.

Emotions.—A native in his wild state lives in constant danger. Human enemies may attack him at any time by physical violence or magic. He also believes that hostile spirits are about him constantly. Yet fear does not dominate his life. He is normally light-hearted and cheerful. Parental feelings are strong; children are indulged and seldom punished. Filial devotion to aged parents is also strongly developed. Self-esteem and dignity are the perquisites of the elder men who are learned in tribal lore. The implicit confidence of the native in the dictates of those in authority has been demonstrated during the making of face casts by Mr. Hale and Mr. Tindale. The setting of the plaster gives an uncomfortable feeling to a European that the mould may not come off. A sweating under the mask is an expression of this anxiety. A bush native does not sweat in these circumstances, as he or she has been assured that all will be well, and he or she believes this. A station native sweats like a European. Natives are extremely honest among their own people and with whites to whom they are attached. In Central Australia a man will lay a twig across some personal possession and no one will touch it. When camping among natives where one has been accepted as a friend, no thefts occur. A man once travelled thirty miles to return a bandage to me when it was no longer required as a dressing. The possessions of an intruding stranger are looked upon as fair spoil, as most explorers and many pioneer settlers have found to their cost. Truth in itself has no value to the native. He will agree as likely as not to the suggestion of any leading question and will fabricate false explanations to escape blame; but if allowed to tell his own story in his own way, will usually give a detailed and correct account of events. The stoical acceptance of necessary pain is a marked trait of aboriginal character. The cinema film of the knocking out of a tooth is a good illustration of this. The same trait makes the estimation of pain by laboratory methods uncertain.

For example, when I was testing some Iliaura natives by applying a metal container to the flexor surface of the forearm, when the container was filled with water at different temperatures, the earlier subjects did not demur until the water was about 140° F. Later subjects gave signs of discomfort at 133° to 136°. The earlier men were then retested and, realizing that the utmost was not required of them, responded at the lower temperature.

To myself a temperature of 128° F. was distinctly painful. The natives also stated that the women would much sooner be beaten than scolded, so preferring physical to psychical pain. This did not convince me at the time, as it was a statement by the men, but the Misses Chalmers, who know the native women well, have assured me that the women also make the same remark.

In summing up, it seems fair to conclude that the appetites and emotions of the aborigines do not differ in quality from those of other nations, but that they are aroused by affairs of the moment more readily than are the emotions of the average person in civilized societies. In other words, the emotional systems of the aboriginal are loosely integrated, and consequently tend to respond on the all-or-nothing principle, as Rivers has pointed out.

There is, however, one sentiment that is dominant in the mental life of the aboriginal, and that is his intense reverence in his native state for his sacred ceremonies, legends and objects. This sentiment is the basis of the prestige of the old men, who are the living repositories of the sacred lore. Upon this prestige of the old men depends the whole fabric of the native social organization. Detribalization has been and is one of the main factors in the extermination of the aborigines.

Intelligence or Mental Ability of the Aborigines.

The consensus of opinion of the earlier observers was that the aboriginal develops to the standard of intelligence of a child of twelve to fourteen years of age and there stops.

The methods of the psychological laboratory have been applied in recent years to the Australian native. Professor Porteus was the first worker in this field and has remained the foremost exponent of such methods in Australia. He has analysed

recently his own results and those of Mr. Piddington, who was trained in his laboratory.[26] His conclusions are:

> While the aborigines' performance on the maze is but little inferior to that of whites, in auditory rote memory their poor performance can be matched only by the abilities of the feeble-minded of our own race. The abilities tested by the maze have been shown to be important for social adjustment, and in social organization the blacks have indicated superior ability. On the other hand, rote memory for unrelated material is essential to school progress, and if memory is defective in this regard, school progress must necessarily be limited.
>
> The available evidence in regard to aboriginal mentality seems to point indubitably toward a somewhat inferior mentality for abstract intelligence or the capacity to deal with abstract symbols of thought. This incapacity is probably directly related to an inferior auditory rote memory.

This last deduction is based upon classing as abstractions "that seven eights are fifty-six, or that l-i-t-t-l-e spells little". The Victorian school inspectors reported that their native children were proficient in spelling and simple arithmetic.

The results of my own work among the natives have led me to a general conclusion which is in agreement with that of Professor Porteus, but I venture to disagree with him in his opinion that a defective rote memory is the basis of the natives' inferior ability. The cause seems to me to lie in the first place in the tendency of the aboriginal's interests to conform to the all-or-none principle, and in the second place to the manner of his thinking.

Attempts to estimate the acuity of the aboriginal's sensory perceptions soon convinced me of the importance of attentive interest as a factor in success in these experiments.

Adult natives at Hermannsburg gave evidence of a visual acuity only equal to that of whites.[12] Native boys, however, took a keen competitive interest in the tests, and their performance was far beyond that of the best efforts of the whites. The girls for the most part giggled and wriggled during the tests and gave poor results, but one girl stood fast and gazed intently at the test figure and surpassed all the boys save one. Only one boy gave a poor performance. He appeared well at the time, but died a few months later.

Dr. Pulleine and I tried in succeeding years at Macdonald Downs and Cockatoo Creek to confirm this evidence of superior visual acuity. Various test objects were used in addition to letters and broken circles, such as pictures of spears and animals, a bronze lizard and a dead lizard. The natives were invariably apathetic and gave a poor performance. Last year, at Pandi Pandi, where the natives have been in contact with European civilization for two generations, I succeeded in arousing some competitive interest. Three young native men succeeded at the maximal distances of 50, 50 and 78 feet respectively, a lad with a tinge of white blood at 69 feet, and four whites at 52, 55, 58 and 66 feet respectively. These results do not confirm the Hermannsburg results, but indicate a slightly higher degree of visual acuity in the natives' performance, especially as the nature of the test object, a Snellen E, was in favour of the whites. An unpremeditated test occurred at Mount Liebig.

> A native pointed out some members of the university party who could be just distinguished by the whites when their position on top of the mountain was indicated. They could be seen clearly through binoculars. The climbing party passed behind the crest, and only the upper half of their bodies was presented to view. The same native was asked if he could see them then. His reaction was typical. He directed a quick, searching glance toward the hill top, turned his back and gave a negative reply in a disgusted tone of voice, as if resenting the unnecessary effort of looking.

This illustrates the usual mental attitude of the blacks to formal tests where they are asked to identify repeatedly some test object. Older natives usually have defective vision by reason of repeated attacks of conjunctivitis. Mr. T. Strehlow states that he had such a man with him for some time, and in spite of his defective vision this native could spot and identify an animal in the bush before he could.

Dr. Pulleine and I attempted to estimate the auditory acuity of the blacks at Cockatoo Creek by inducing them to beat time to a hidden metronome. Whites were more successful than blacks.

I attempted to estimate the acuity of the sense of smell of the aborigines at Cockatoo Creek. Five bottles with wide mouths were filled with two ounces of water, and to the water in each 2·0, 1·0, 0·5 and 0·25 and nil cubic centimetres respectively of a saturated aqueous solution of camphor in water were added. If the smell of camphor was recognized, the score was marked as positive; if not recognized, the score was marked as negative. The number of positive and number of negative scores at each strength of the test solutions is given in Table I as the fraction +/−.

Table I.

Race.	Subject.	Score in regard to strength of camphor.				
		2·0 Cubic Centimetres.	1·0 Cubic Centimetre.	0·5 Cubic Centimetre.	0·25 Cubic Centimetre.	Nil.
Aboriginal ..	♂ No. 3 ..	1/0	3/1	4/0	5/1	4/0
	♂ No. 4 ..	3/0	2/0	2/0	5/0	3/0
	♂ No. 9 ..	2/0	2/0	2/0	2/0	4/0
	♂ No. 10 ..	2/0	4/0	4/0	3/0	4/1
	♂ No. 18 ..	3/2	0/3	2/0	2/1	5/1
	♂ No. 11 ..	4/1	1/3	1/3	1/1	0/3
	♂ No. 21 ..	4/0	4/0	4/1	2/1	4/3
	♂ No. 40 ..	3/0	5/0	2/0	3/1	3/3
	♂ No. 43 ..	3/0	3/0	4/0	2/0	4/1
	♂ Peter ..	2/1	0/2	1/2	1/0	2/3
	♂ Paddy ..	4/0	3/0	1/2	0/3	0/2
	♂ Wheeler	3/0	2/0	2/0	2/1	0/3
White ..	C.	—	2/0	2/0	3/0	0/3
	J.	2/0	1/1	2/0	2/0	0/2
	P.	2/0	4/0	1/3	0/4	0/2
	F.	3/0	2/0	3/1	3/2	0/2

The failure of the natives to distinguish the control without camphor is a good illustration of the difficulty experienced in applying laboratory tests to aborigines. Five women also were tested and none of these succeeded in distinguishing the control bottle. Paddy and Wheeler were men from Alice Springs; they and one local native alone succeeded with the control. Contrasted with these men the whites' performance indicates a sense of smell more acute than that of the blacks.

The Misses Chalmers, of Macdonald Downs, and Mr. Allan Brumby, of Ernabella, who have been about in the bush with natives since childhood, have assured me that in their experience the bush native can see, hear and smell more acutely than white people. Mr. Reese, of Minnie Downs, who has had a long acquaintance with station blacks, informed me that he is certain that the vision of the natives is keener than that of the whites, but that in his experience their hearing and sense of smell are not superior. This opinion does not conflict with the former if the principle of interest as a factor in sensory acuity be admitted. Hearing and sense of smell may be of vital importance to a bush native, warning him of the proximity of game or other human beings or of unseen camp fires. But hearing and smell are of little value to a station blackfellow. Good vision is still of importance to the station hand, and the naturally keener vision of the native remains in evidence in these circumstances.

There is nothing new in this emphasis of the interest factor in perception. The ancient Greeks philosophized on the difference between seeing and looking. Our language also distinguishes between listening and hearing and between feeling an object and just touching it. We have no word to particularize the mere sensations of smell and taste from attentive concentration on these sensations, yet nevertheless the distinction is recognized. Perception is not a mere passive reception of a sensory impulse, such as the registration of the impact of light on a photographic plate. Rubin[29] has pointed out that visual perception is essentially the discrimination of a figure from a ground or upon a ground. Any perception similarly involves the discrimination of some elements of the sensory field of the moment from the field in general. Such discrimination demands attention. Attention is a species of circular reflex which Bergson has compared with the action of a telegraphist who repeats back word by word an important message.

Professor Porteus has concluded that the aboriginal is defective in rote memory because he gives a poor performance when he is required to repeat a series of numbers for auditory memory or a series of movements for visual memory. These tests, however, are not only tests of rote memory, but also tests of attention. The ability to reproduce the test numbers or movements must be proportional to the attentive interest accompanying the original perception. Formal tests of perception, as we have seen, do not interest the native to any great extent. A logical conclusion would be that the natives performed poorly in the standard tests for rote memory because they were not interested in succeeding in the tests. Professor Porteus states that the natives were interested in the xylophone experiment by which visual rote memory was estimated, but they were no doubt interested in the novelty of the experience and not interested in proving their ability to reproduce the movements witnessed. This opinion is supported by an experience of my own when testing a native boy who could speak English fluently. He could reproduce only four syllables in English, but twenty-one when these were spoken in Aranda by a person accustomed to speak this language. Again, Professor Woollard and Dr. Pulleine[36] tested the native children at Koonibba in the parlour game of writing down from memory a list of objects which had been exposed for a short time on a tray. The children scored well, and the lowest score was made by a member of the university party.

The general opinion of those acquainted with the natives is that their power of memory is remarkable. Professor Porteus himself has recorded four instances of this.[27] Mr. Tindale and I took a native to the Coorong last year. He had not visited the district for twenty years. He supplied hundreds of place names which were confirmed whenever other evidence was available. Professor Porteus considers that such examples refer only to memory by association. But associations break up rote memory, as experience in taking histories proves. The dull-minded man usually wades through a mass of rote material to arrive at a second fact bearing on the event which is the subject of inquiry. A quicker mind sorts out the details of experience and these become linked by their relation to interest factors and are retained by the mind in this way rather than by the original condition of mere temporal succession. The ability of the mind to retain some record of former mental states, that is, the "faculty" of memory pure and simple, must be essentially the same in both rote memory and associated memory. Defective powers of memory therefore do not appear to be the cause of the aborigines' mental disability.

The interest factor is equally important for success in intelligence tests as in perception tests. The Porteus maze test I have found, like other observers, to be the most useful of the standard tests when examining the aboriginal. This problem can be explained to the native in terms of a bullock escaping from a stockyard, and appeals to people who are acquainted with cattle. Iliaura men were interested in this test and performed fairly well.[13] Natives at Cockatoo Creek knew nothing of cattle yards, fences, houses or any other artificial enclosure. After great efforts to explain the nature of the problem to nine aboriginals individually, only four comprehended the test sufficiently to be able to score at all. Their performances represented mental ages of 10, 8½, 10 and 10¼ years respectively. These were relatively poor results. At Ernabella, where our interpreters were not very efficient, I was

unable to interest any natives sufficiently to undertake the problem. At Pandi Pandi the natives were all old station hands and attacked the problem eagerly. The average score of ten full-blooded men was 14·35 years, and of six full-blooded women 13·75 years. Two men and one woman were successful without a slip. Professor Gregory formed his very favourable opinion of the character and ability of the Australian aboriginal from his experience in this area. The success of the women of this district in the maze test was particularly impressive. Women in native society are severely repressed and become mere drudges. Old native women at Hermannsburg could not even exhibit an interest in choosing a bead necklace of one colour rather than another.[12] My general experience has been that it is waste of time to attempt any test with any but the younger native women. The women at Pandi Pandi shared the men's interests and were mentally alert even in advanced adult years.

The importance of attentive interest as a factor in intelligence has a bearing on the theories relating to the nature of intelligence. Professor Spearman[31] has deduced by mathematical methods that a general factor *g* is represented in all mental activities, energizing special ability factors *s*. Thomson and Brown[33] have found that the factors of chance and sampling alone will account for Professor Spearman's hierarchical order of coefficients, and they have concluded that the theory of two factors is superfluous. Cyril Burt,[2] however, found evidence of a common factor in intellectual functions, and interpreted this in the opinion that "so-called voluntary attention is of all recognized psychological processes the essential factor in general intelligence". Ernest Jones[22] states that Hocart's work in Fiji has brilliantly demonstrated "that much of the supposed deficiency of primitive peoples in such functions as concentration, reason, powers of discrimination and logic, and so on, is not due to lack of these qualities so much as to a different orientation of emotional interest from our own". With this opinion I concur, adding that the aboriginal's emotional interests partake of the all-or-none principle more than do our own.

Many attempts have been made to define intelligence. The definition which impresses me as the most practical one is that of Dr. Charles Mercier,[23] who has analysed intelligence from the basis of his experience of the mental disintegration of insane patients. He divides intelligence into objective and subjective processes; objective intelligence into the four "levels" of perception, caution (self-preservation), ingenuity and wisdom; and subjective intelligence into "levels" representing the individual's capacity to adapt his ideas to the physical world, his own mental powers, social affairs and moral values.

If the abilities of the Australian aboriginal be measured against this arbitrary schema, his intellect is not greatly defective on the objective side. He has superior ability in perception and caution. He exhibits considerable ingenuity in his craftsmanship, in hunting, in procuring water and in adjusting his complex social system to meet unusual circumstances. Wisdom in practical affairs is characteristic of the older men. But on the subjective side the aboriginal's ideas do not appear to be sound. For example, he sees no incongruity in the idea that his viscera have been removed by an ancestral spirit and others substituted; a native medicine man will practise gross imposture and yet not realize that he is an impostor; he will also believe in the efficacy of the simulated withdrawal of foreign material from his own body by a fellow practitioner. When native women at Mount Liebig were questioned regarding the conception of their children, they related stories in which waking visions were repeated in their dreams, and both these forms of experience merged into those of normal waking life. Such thinking is typical of the mental processes of young children of our own civilization, with whom the world of dreams and make-believe is only slightly, if at all, separated from the world of things as they are.

If thought sequences which follow such a haphazard course are accepted as valid, obviously logical methods of reasoning can have little part in the mental processes of such people. The relative incapacity of the aborigines to carry out abstract reasoning is conceded by all observers. The absence from their language of words for abstract conceptions is quoted frequently as a proof of this. Their language also is poor in words with a generalized significance. For example, they have numerous words particularizing certain trees and parts of certain trees, but no word for trees in general. One notable exception is the addition of the prefix *kuka* to animal names by the Luritja group of tribes to indicate that the animal is a meat food. The nature of the mental disability under discussion may be made clear by other examples.

It is very difficult to induce a native to mark off a portion of a line or a stick which shall be equal to another portion. Yet the native has a working knowledge of symmetry, because he can hew out a symmetrically shaped dish from a log of wood. In the same way a native will readily volunteer the remark that this stick is a long one, that a short one; that this is a big mob, that a little one; that this is heavy, that is light; that this is hot, that is not hot, and so on; but it is very difficult to make him indicate which is the longer of two sticks, the bigger of two mobs, the heavier of two things, or the hotter of two vessels. The native apparently has difficulty in formulating an idea of the general qualities of length, size, weight and heat apart from the particular individual experiences. This mental trait was illustrated most forcibly when Dr. Pulleine and I were testing the colour perception of the natives at Cockatoo Creek. No colour-blind native has been discovered so far. All of fifty natives on this occasion traced the figures of Stilling's colour plates correctly. Colour names were applied to

colour samples somewhat indiscriminately, but this could be explained to some extent by the paucity of their accepted names for colours. When Holmgren's coloured wools had to be matched, the usual result was that at first some wools of the same colour would be selected and then, by gradual transitions, wools of variant colours would be added. This anomaly was emphasized by the performance of Mary, who was acting as interpreter for the women. She was hilariously critical of the efforts of the local native women, and rolled on the ground in paroxysms of laughter, crying out: "Oh! him silly beggar." Yet when Mary was set to work on the problem, she put up a similar performance.

The difficulty or impossibility of making a native comprehend the idea of arranging spotted cards in numerical sequences, or of sorting the Thurston pictures of hands into right-handed and left-handed examples,[25][28] is a further instance of the same lack of ability to formulate propositions of a generalized nature.

Perceptions and simple concepts are mental images which can be described in words. When thinking is carried out in images, as occurs when we day-dream, the sequence of thought is more or less haphazard in its course and is merely accompanied by verbal descriptions and commentaries. but if words are dominant, the significance of words forms the basis of ideas of a general nature, and such ideas can be linked together in logical sequences. For example, we can apply the term beautiful to a variety of experiences and then by means of words build up an abstract idea of beauty as a thing in itself. Professor Bartlett[1] has contrasted thinking in images with thinking in words. He points out that verbal thinking is biologically subsequent to the image-forming process.

> But though it is a later and higher development it does not supersede the method of images . . . . The image remains the method of brilliant discovery whereby realms organized by interests usually kept apart are brought together; the thought-word method remains the way of rationalization and inference . . . whereby the results which follow are not merely exhibited but demonstrated.

Image thinking is also the method of the poet and mystic. Dr. Ernest Jones[22] also contrasts primitive emotional thinking with logical reasoning and considers that "it is quite possible that there is a quantitative difference between savages and civilized peoples in this respect". Professor Bergson formulated the same distinction in contrasting instinctive with intellectual reasoning. Jung's description of extraverted and introverted types of thinking is related to the same concept. Hughlings Jackson[21] first pointed out that the essentially propositional value of words represented a mental process of the highest level and that the loss of this sense of the value of words was the basis of true aphasia. The difference between thinking in images and thinking in words is illustrated by the Binet-Simon test of definitions. The average child of six years of age or less defines objects by their use; for example, a chair is defined as "to sit on". An adult definition of a chair would commence with the generalization that it is an article of furniture and would proceed to describe its particular characteristics and uses. The phrase "to sit on" represents the description of the mental image of a chair in use. The statement that a chair is an article of furniture involves the formulation that of known objects some are and some are not furniture.

Uninhibited emotion is associated with vivid mental imagery and is inimical to logical thought. The emotions of the aboriginal are relatively uninhibited and in consequence his thinking is predominantly the method of images. His interpretation of natural phenomena, his legends of totemic ancestors, his beliefs regarding *tjuringa* and the efficacy of his sacred ceremonies and magic rites are based on thinking in the method of images. This is the general nature of "primitive" mentality which Levy-Bruhl has termed the *disposition mystique*. The psychology of the crowd is a psychology characterized by image thinking, in which the restraining influence of logical principles is absent. Durkheim's identification of primitive mentality with the psychology of the crowd is justified in that emotional thinking is represented in each case.

An unsolved question is whether the Australian aboriginal can attain to the degree of abstract thinking required to meet the requirements of modern civilization. There is the theoretical possibility that, with the aid of the richer vocabulary of the English language, the aborigines may be educated to master the technique of thinking in words. There is at present no evidence that that possibility has been realized; all that can be said is that practical experience and laboratory tests prove that the natives who have been in close contact with white civilization have acquired some degree of the white man's way of thinking.

The practical problem of what to do about the native as he is is of more importance. Education is not necessarily a system of scholastic training, but education has its real aim in promoting a development towards an adapted relation to a social system.

Aboriginal beliefs are in harmony with the aboriginal's mode of thought. These beliefs provide a sanction for the undisputed authority of the older men, by whom the structure of the native social system is maintained. Under this system the members of native society are adapted to their natural environment. Contact with white civilization emancipates the young men from the authority of the older men and destroys both the system of beliefs and the environment of animal and vegetable life and of water supply to which the natives are adapted. Undermined in this way both from within and without, the native social system disintegrates quickly. A few of its members may fit into niches in the white man's system and maintain their self-respect, but the majority lose their status of self-reliant masters of their fate and become dis-

heartened dependants upon a society which they cannot enter. The will to live becomes weak in these circumstances and the natives die out.

Unfortunately for the aboriginal, our society has no generally accepted sanctions. Our professed sanctions are often verbal ideas which are contradicted in ordinary conduct and conversation. The native recognizes the authority of the police, the station managers and the missionaries. These people have no common system of beliefs, nor do they agree in their exposition of social standards. Experience of townships exposes the aboriginal to more inconsistencies. The native blackfellow is faced with extraordinary difficulties in any attempt which he may make to become adapted to the conditions of our society.

For natives who still live under their natural conditions the outstanding necessities are that the authority of the old men should be maintained as far as possible and that their territory should not be invaded by representatives of gold-mining, pastoral or other industries. In such contact as is necessary our primary endeavour should be to help them to maintain themselves as a self-supporting society. Scholastic and theological instruction can well be deferred until a nomadic life is no longer possible.

For natives who have become detribalized there is a strong need to encourage occupations such as fishing or pastoral work, whereby they may retain or regain their self-respect and their will to live.

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CLINICAL ASPECTS OF NEPHRECTOMY.[1]

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In my paper tonight I intend to tell you the clinical points that have impressed themselves upon my mind as I have reviewed the list of the last fifty cases of nephrectomy performed by myself at the Mater Misericordiæ Public Hospital.

The mechanical part of the operation can best be looked up in a book, and I will only say that in lumbar nephrectomy I use a Devine saddle, which I have found a very great comfort, especially if I go to a strange hospital to operate. I make a modified Mayo incision and work as far as possible in its lower end, but if necessary one or even two ribs may be fractured. If perirenal adhesions are at all difficult, I invariably do a subcapsular operation and remove as much of the ureter as is feasible.

In one case—that of an old man whose prostate I had removed four years previously—I had great difficulty in freeing the ureter and pelvis which had contracted down over a calculus in the uretero-pelvic junction. There was no apparent renal tissue left, the kidney itself being a fibro-fatty mass. As he was a frail old man, I very gingerly cut through the pelvis as close to the stone as I could and left stone and pelvis *in situ*, and had no trouble afterwards.

Another case was that of a young man who arrived desperately ill from the north with a long history of acute infection. In attempting to remove an infected hydronephrosis that was the cause of his trouble, I found that the thin layer of renal tissue present was so friable that I failed to remove the upper pole into which the vessels, unfortunately, were entering. Considerable oozing was taking place and, the patient's condition causing some anxiety, I eventually packed the cavity and left him, knowing that very little renal substance was left, but that its vascular system remained intact. The case differed from the previous one, there being a profuse excretion of low specific gravity urine, which was worse at night. I did everything I could think of to destroy the tissue left, even opening up the wound twice very freely and cauterizing the thin renal tissue once with carbolic acid and once with diathermy. The patient's general health was splendid except when his sinus healed up; but I am afraid that there must still be some leakage.

[1] Read at a meeting of the Queensland Branch of the British Medical Association on February 1, 1930.

Another mechanical trouble that I have experienced is in removing the ureter. Whenever I have been most anxious to remove the whole ureter, I have failed most dismally and have felt most grateful that I did not kill the patient with peritonitis. The upper two-thirds of the ureter are generally easy enough to remove, but the lower third can be a nightmare.

As regards abdominal nephrectomy which I use for malignant cases and some abnormalities, I use the incision as described in Hugh Young's book. It is an enormous incision, but heals remarkably well.

An unusual abdominal nephrectomy that I recently performed was in the case of a man whose right kidney was in his pelvis, was not functioning and was causing pain. He had recently been operated on for appendicitis and the tumour was discovered during the operation. X ray examination after administration of "Uroselectan" revealed a normal left kidney; and a blurred shadow in the region of the tumour suggested the latter to be a displaced kidney with poor function.

Through a pararectal incision the tumour was easily located transperitoneally. The posterior peritoneum was incised and the tumour removed with some difficulty. Drainage was provided by tunnelling extraperitoneally down to the tumour cavity; the peritoneum was then sewn up and the patient made an uneventful recovery. The tumour was a malformed, misplaced kidney—the upper pole being absent; there was no real pelvis, the lower calyx being continuous with the ureter which was completely blocked by a calculus.

The conditions for which I performed nephrectomy in the same series of cases might be classified thus: (i) Hydronephrosis, 14 cases; (ii) pyonephrosis with gross type of infection, 16 cases; (iii) renal calculi, 15 cases; (iv) acute tuberculosis, 2 cases; (v) malignant disease, 1 case; (vi) pain, 2 cases.

As regards class (vi), in both cases the pyelograms were apparently normal, yet the condition failed to clear up after removal of every obvious focus of infection, and in spite of everything I could do, each patient bitterly complained of this "pain in the back" over a period of years, till I reluctantly removed the offending kidneys. In each case this resulted in relief of pain and marked clinical benefit which was not, however, maintained when the patients resumed their normal life. With improved knowledge, I cannot imagine myself having to remove a kidney for pain in the absence of positive findings of disease therein.

As regards class (v), I was surprised to find only one case; but such cases in an operable condition are certainly not common, though in my private work during the same time I have operated on at least three patients, and attempted operation on two others for this condition.

Tuberculous cases have not been common, and amongst these the majority have been cases of advanced generalized tuberculosis and inoperable. Now that intravenous pyelography is becoming so reliable, we ought to find it easier to advise in such cases.

Renal calculi have been the main cause for removal of the kidney in fifteen cases, but of course almost always associated with great destruction of tissue, which is the chief deciding factor in making nephrectomy the operation of choice.

Hydronephrosis and pyonephrosis are really the same type of condition, as I believe that every patient with hydronephrosis it at least potentially infected. In class (ii) several cases of cortical abscesses have been included, although the pathology is definitely different from that of pyonephrosis.

As regards perinephric abscesses, the diagnosis is extremely difficult to make in the early stages, and by the time it is definite there is so much infiltration of tissue that I have been contented always to drain and later to remove the kidney if necessary. In pyonephrosis I have twice had to stop in the middle of the operation and be content to drain, but in each instance some months later I have successfully removed the kidney. Twice I have been confronted with empyema as a complication of pyonephrosis. On each occasion I have drained the empyema and later done nephrectomy.

In investigating these cases I originally depended almost entirely on cystoscopy *plus* an intravenous indigo-carmine test. The appearance of a good colour on one side and its failure to appear on the affected side was an almost infallible indication for nephrectomy, especially when the X ray picture showed no obstructing calculus. On two occasions the pain complained of was on the side that showed the dye, but luckily these cases occurred after retrograde pyelography was introduced and I was able to confirm the findings, namely, that the absence of the dye denoted a completely destroyed kidney while the presence of the pain denoted a kidney which was failing with a toxic pyelonephritis. In both cases perfect clinical results were obtained after nephrectomy of the destroyed kidneys. With the introduction of retrograde pyelography more accurate information was obtained, as each side was always investigated at intervals of a few days, the main indication for nephrectomy being then a normal pyelogram on one side and a hydronephrotic kidney on the other side with absence of dye in the indigo-carmine test.

About this time I was confronted with two difficult cases. Each patient was very ill, the blood urea content being over 60, and the urea concentration under 1%.

In case A, which was the more chronic case, there was no indigo-carmine to be seen on either side; pyelography showed an enormous hydroureter and hydronephrosis on the left side and a ptosed kidney on the right with a very fair renal outline and no obvious kink in the ureter.

In case B, which was the more acute of the two, there was no indigo-carmine from the left side, but just sufficient to see from the right. Pyelography showed a complete pyonephrosis on the left side and a moderate hydronephrosis of the right side.

In each case the urine was full of blood and pus and the outlook was desperate. Believing as I did then and still do, that such pyonephrotic kidneys have an appalling effect on the function of the other kidney, I decided to attempt to operate, and managed to do so with success. Each patient left hospital clinically well. The blood urea content in each instance was down below fifty and the urea concentration was in the region of 1·5%.

In case A, the patient whose right pyelogram was reasonably normal, is still alive and apparently in perfect

health. In case B, the patient whose right pyelogram showed hydronephrosis, died last year after various ups and downs. Both patients were operated upon in 1927.

Now with the introduction of intravenous pyelography the diagnosis can generally be made by this means alone in such cases. There is one point to consider, however, and that is that a negative result with intravenous pyelography should be confirmed by the retrograde method. In one case lately I was unable to carry this out owing to a foul cystitis, and on cutting down to remove a supposed pyonephrotic kidney, found there was no kidney present. In another case a retrograde pyelogram showed up a polycystic, spider type picture which was practically imperceptible in the intravenous picture, though suggested by the picture of the other kidney.

In another case, of bilateral calculi, intravenous pyelography showed no excretion in the right kidney, with a slightly hydronephrotic kidney on the left side, the renal shadow there suggesting a pelvic stone. The patient's acute pain being on the left side, retrograde pyelography showed the right renal shadow to be a stone completely blocking the upper ureter, removal of which restored the renal function in four weeks' time, as proved by another intravenous pyelogram.

Another case of great interest was that of a boy of nineteen, sent in with a diagnosis of acute appendicitis, with blood, pus and casts in his urine.

X ray examination revealed no calculus; cystoscopy showed a normal left ureter, but only a round hole, about one centimetre in diameter, in the region of the right ureter. Retrograde pyelography showed the right ureter to extend up to a blind end at the brim of the pelvis. Intravenous pyelography showed a normal left kidney and ureter and a vague shadow which suggested a right kidney. Taken with the appearance of his lower ureter, I considered there must be a congenital lack of continuity in the lumen of the ureter, and after the removal of very septic tonsils decided to operate by the abdominal route. A fairly normal kidney was exposed and a ureter which in calibre was similar to that of the ureteral stump. This was traced down to the brim of the ureter where it ended in a fibrous cord. Kidney and ureter were removed. The kidney pelvis showed early hydronephrosis, and a section showed a completely disorganized viscus.

An interesting observation was made in two cases of complete anuria lasting over a week.

Each patient had only one kidney, which was enormously enlarged. In one case a stone was blocking the pelvi-ureteral junction. In the other the calculus was in the lower ureter. In the former case the renal enlargement was due almost entirely to congestion of the cortex, in the latter to dilatation of the renal pelvis. Each patient had an extreme polyuria after the obstruction was relieved and made an excellent recovery.

The most impressive point in nephrectomy in carefully investigated cases is the astonishing improvement in the function of the other kidney. Immediate improvement is the rule, but the process goes on for at least six months and during this time the patient is well advised to take care to avoid fatigue and dieting indiscretions, and to be especially careful of intercurrent illnesses.

I say six months are needed to convalesce, for several patients have had attacks of surgical anuria during that period, these attacks lasting about forty-eight hours and being associated with great renal pain.

The surgical mortality in these cases has been remarkably low. There have been no operative deaths, though in my private work one patient on whom I performed abdominal nephrectomy for advanced hypernephroma, died within fourteen days of operation.

GLYCOGEN ACCUMULATION DISEASE.

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Normal carbohydrate metabolism depends upon the rate of absorption of glucose from the intestine, its presence in the blood of the portal circulation, and in the arterial blood, its synthesis into glycogen in the liver and the muscles and its storage there, as well as the reconversion into glucose for the maintenance of the circulating level. There are several hormones concerned in regulating these processes. Some aspects of this general outline must now be considered in detail.

First, although we have little knowledge of its concentration in the portal stream, the level of circulating glucose is much more constant than the results of a glucose test meal would convey. A recent series of observations carried out in America on 37 nurses engaged in their daily routine showed that there is remarkably close agreement in the resting values; the maximum post-alimentary rise was 58 milligrammes *per centum*, the average being 39·7%. This is a much smaller rise than we are accustomed to see in the glucose tolerance test. Here glucose only is given and there is not the regulating mechanism of protein digestion products in the portal circulation. Also the patient is at rest, so that the conversion of muscle glycogen to lactic acid and the consequent call for muscle storage of glucose are at a minimum.

Secondly, the rate of glycogen formation in the liver is dependent to a large extent on the concentration of sugar in the portal circulation; obviously less glycogenesis will take place with a blood sugar of, say, 88 milligrammes *per centum* than with one of 120 milligrammes *per centum*. This is because the stimulus to the secretion of insulin is less. Experiments upon the portal circulation of cats have shown this to be so.

Thirdly, while the liver contains an enzyme which will convert glycogen to glucose directly, muscle glycogen must be broken to lactic acid before resynthesis in the liver.

[1] Read at a meeting of the Pathological Society of New South Wales, August 7, 1934.

Fourthly, this process is known to occur under the name of the "Cori cycle". The liver glycogen is converted to glucose, stored from the circulating glucose as muscle glycogen, is broken down to glucose, then to lactic acid during muscular contraction, and this lactic acid is resynthesized to glycogen in the liver.

Fifthly, muscle glycogen is more readily built when insulin is present. In diabetic patients transfusion of blood from a normal person who has recently ingested carbohydrate produces a more rapid fall in blood sugar than one from a fasting donor, because more insulin is likely to be present or, according to Himsworth, there is an increased sensitivity to insulin.

Sixthly, the production of adrenaline during muscular activity helps to liberate liver glycogen and helps to bring about synthesis from lactic acid.

Seventhly, normal insulin secretion, which inhibits a rise of blood sugar, is dependent upon the concentration of glucose in the portal circulation, as we have said; and its secretion will cause a rise in liver glycogen during absorption by preventing further breakdown; the rise of blood sugar after removal of the pancreas is prevented by removal of the liver in the experimental animal. Lactic acid perfused into the depancreatized animal is not synthesized to glycogen, so this must be a subsidiary action of insulin in the normal animal.

Adrenaline has an antagonistic action to that of insulin, shown by a rise in blood sugar following its injection. This test for glycogenolysis can be easily performed in the human patient and is known as the adrenaline response test. Minimum values of adrenaline dosage have been determined, after the injection of which a rise of 30 milligrammes *per centum* of blood sugar is found within thirty minutes of the provocative injection in the normal patient.

The secretion of adrenaline during muscular exercise helps bodily effort by stimulating the formation of additional glucose to fill the muscle stores and in synthesizing liver glycogen from the lactic acid of muscular contraction.

Anterior pituitary hormone is said to play a part in the regulating of carbohydrate metabolism; in hypophysectomized dogs there frequently develops a condition of insulin sensitivity, and they sometimes exhibit a spontaneous hypoglycæmia which is not readily relieved by injection of adrenaline. Also in the disorders of growth in children it is found that they do not exhibit the customary curve of the glucose test meal.

A condition of progressive painless enlargement of the abdomen, flaccidity of the muscles, slow bodily growth, with hypoglycæmia, ketosis and absence of response to adrenaline, has recently been described in young children. This has been found to be accompanied by large deposits of glycogen in the liver and has been named "glycogen accumulation disease" or von Gierke's disease, after the man who first described it.

The children are usually thought to be of placid disposition, inclined to and capable of little effort, and the parents usually seek advice on account of the ungainly figure of the child or lateness in walking, rather than on account of the existence of symptoms of disease.

Two such children have been under observation in the Royal Alexandra Hospital for Children during the past eighteen months.

The first patient was a girl who was unable to walk on account of the size of her abdomen and the softness of her muscles. Her fasting blood sugar was 0·054%, with marked ketonuria; and she occasionally had convulsions in the early morning, until her mother learned that if the child was wakened about 9 p.m. and given barley sugar, she would sleep until 7 a.m., when she was immediately given her breakfast.

At this time she exhibited an excess of fat in her blood serum, which disappeared after the child had been placed on a low fat and high carbohydrate diet for a few weeks. She had an anæmia of the secondary type, with a marked lymphocytosis, and, beyond a liberal supply of iron, no other treatment was instituted.

During the next six months the size of her abdomen decreased a little and she began to walk. Recently she has had an attack of pertussis, with severe spasms of coughing, which has accentuated the lymphocyte count of her blood; but the ketonuria is less, the size of the liver has decreased, and the tenseness within its capsule is definitely diminished.

The second child is a similar case, with the difference that her fasting blood sugar is constantly at the level of 0·072% and she has never had hypoglycæmic convulsions nor lipæmia. Her ketonuria has been extreme, and on a few occasions a trace of sugar has been found in her urine. Her response to adrenaline is entirely absent, even after increased doses tested on several occasions. She also has a chronic pyelitis and recently suffered from an attack of catarrhal jaundice for which she was admitted to hospital, and a further series of observations was made.

For the first forty-eight hours in the ward she had a temperature of 38·3° C. (101° F.) and vomited several times, but in spite of this her ketonuria grew less, and for the last eleven days of her convalescence her urine was acetone-free.

The fasting blood sugar remained at its customary level of 0·072%, and the highest reading of a series taken every four hours over a period of twenty-four hours was 0·108%. Nevertheless during this time the circumference of her abdomen decreased 5·6 centimetres (two and a quarter inches) and the tenseness within the liver capsule was noticeably diminished.

The increased metabolism of the fever thus, while it did not raise the level of the circulating glucose, must have markedly accelerated the rate of its utilization. We endeavoured to ascertain this by simultaneous determinations of the capillary and venous blood glucose, but found that in the resting and fasting states the two were identical.

After the child had been up for two days we again estimated the values after she had been taken for a short walk, and found that the venous blood levels were eight milligrammes *per centum* lower than the capillary. A normal child of similar age and exercise at the same time showed a difference of 15 milligrammes *per centum* between capillary and venous figures.

Her blood picture is similar to that of the first patient, the red cell count being lower than it was before the attack of jaundice, so that energetic iron therapy has been instituted. She has continued to gain in weight, and the ketonuria has returned and is as pronounced as it was before the illness.

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Van Creveld, of Amsterdam, has reported two cases of the disease in which he has had extensive opportunity for chemical analyses, and he has elaborated a method of estimating the blood glycogen, using only small amounts of blood. He has performed a series of estimations on normal children and gives values up to 20 milligrammes *per centum*, expressed as glucose, and found definite increases over this in his two patients on a number of occasions.

The two Australian patients have been tested since their recent acute infection, but no increase has been found.

Van Creveld has made several significant observations in relation to the enzyme action of the patient's blood.

There was no increase of glucose when the blood was collected and kept under sterile conditions at 37° C.

Glycogen added to normal serum and to patient's serum was split in equal amounts. Serum diastase estimations were normal. After the injection of adrenaline, not only did the blood sugar fail to increase, but the lactic acid of the venous blood did not rise, suggesting that muscle glycogen also was not affected by the injection.

The conclusions to be drawn from Van Creveld's findings and the tests done in the two Australian cases would indicate that the mechanism of the accumulation is due to some inherent quality in the glycogen built in the liver, rather than to any lack of enzymes to split it down to glucose.

A theory has been put forward that glycogen built in the fœtus is more stable than that built after birth, as there is much less call for its breaking down; and continuance of formation of this fœtal type of glycogen is responsible for the syndrome. Recent investigations into the chemical constitution of glycogen present evidence that there may be a chemical basis on which this theory rests.

The increased metabolism and diminution of liver size during acute infection demonstrates that the patients can mobilize glycogen at a considerably increased rate.

The rôle played by the anterior pituitary hormone in carbohydrate metabolism is not yet completely known, but the general association of slow rate of bodily growth, placidity of temperament and tendency to the deposition of fat makes it necessary to keep the endocrine circle in mind. Aschheim-Zondek tests have been performed upon the urine of each of our patients with negative results.

The progress of the children over a period of years and their ability to withstand the risks of childish infections make it likely that the condition will diminish with the passage of time; and the outlook appears to be good.

The recognition of the disorder has served to illuminate the dark corners of that tremendous domain, the metabolism of the growing child, and to confront us with the many still unsolved problems of physiology and their bearing on clinical medicine.

Summary.

1. A brief description has been given of carbohydrate metabolism and the Cori cycle.

2. Two cases of glycogen accumulation disease previously reported have been outlined and their recent progress has been added.

3. A short discussion is given of significant facts in the production of the condition.

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LEUCHÆMIC RETINITIS: AN ANALYSIS OF THE EYE CHANGES IN THIRTY-FIVE CASES OF LEUCHÆMIA, TOGETHER WITH A REPORT OF GROSS PAPILLŒDEMA IN A CASE OF CHRONIC MYELOGENOUS LEUCHÆMIA.

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Introduction.

The recognition of leuchæmia as a clinical entity dates from the almost simultaneous and independent publications of Hughes Bennett[1] and Virchow.[2] The former, in October, 1845, recorded a case which, from the microscopical character of the blood, he described as "suppuration of the blood with enlargement of the spleen and liver". One month later Virchow[2] gave an account, under the title "White Blood", of a similar condition, in which he noted the association of splenic enlargement, epistaxis and a peculiar richness of the blood in leucocytes. In both instances these important changes were observed after death. Bennett gave this disease the name of leucocythæmia, whilst Virchow called it leuchæmia. Later on Virchow[3] made a distinction between a lymphatic and a splenic form of the disease; while in 1870, Neumann,[4] after noting the changes in the bone marrow, proposed the term "myelogenous" to describe a third type. Ehrlich,[5] who introduced the differential staining of leucocytes in 1891, distinguished two types of cells in leuchæmia: (*a*) granular leucocytes of bone marrow origin, which occurred in myelogenous leuchæmia, and (*b*) non-granular cells of lymphatic origin, as seen in lymphatic leuchæmia. This division is still the most satisfactory and is the one generally adopted. Although leuchæmia is widely distributed

in the animal kingdom, it is relatively infrequent in man, one case occurring among every thousand hospital admissions.[6]

Since leuchæmia tends to be such a widespread, generalized disease in the body, it is not surprising that highly vascular organs should be the site of changes when an extreme blood dyscrasia exists. As early as 1861 Liebreich[7] published his original communication on six cases of leuchæmic retinitis, and since that time numerous observers have recorded the frequency of retinal changes in leuchæmia. Rolleston[8] stated:

> . . . whereas patients with renal disease, arteriosclerosis or affections of the central nervous system may first seek medical advice on account of ocular symptoms and the diagnosis of an underlying or general disease may be made from the local changes, this is rare in what may be called disorders of the blood.

Disturbances of vision may occur early or late in the disease, and depend upon the location and extent of the retinal lesions. In the majority of cases no interference with vision occurs.

During a twelve-year period ending June, 1934, 81 patients with leuchæmia were admitted to the medical wards of the Melbourne Hospital, and of this number 35 were subjected to ophthalmoscopic examination. Fundal changes were observed in 24 (68·5%) of these cases (Table I).

TABLE I.

Admissions and fundal examination.

Type of Leuchæmia.	Cases.	Eye Examinations.	Fundal Changes.
Acute lymphatic leuchæmia ..	13	5	3 (60·0%)
Chronic lymphatic leuchæmia	16	5	3 (60·0%)
Acute myelogenous leuchæmia	6	4	3 (75·0%)
Chronic myelogenous leuchæmia	46	21	15 (71·4%)
Total	81	35	24 (68·5%)

Borgeson and Wagener,[9] in a series of 138 cases of leuchæmia in which the eyes were examined at the Mayo Clinic, found 89 (64%) of the entire group with eye changes. This percentage closely agreed with the frequency of eye changes observed in this series.

Classification.

In this paper leuchæmia has been classified into four groups by differentiating the myelogenous and lymphatic varieties and subdividing them into acute and chronic types. The chronic leuchæmias are easily differentiated from each other, whilst the distinction between acute lymphatic and acute myelogenous is extremely difficult, if, indeed, any such differentiation exists.[10] Under these circumstances it seems best to describe merely one disease, namely, acute leuchæmia. The clinical picture suggests the lymphatic rather than the myelogenous form; for the lymph glands, particularly those of the neck, are commonly enlarged, whilst splenic enlargement is seldom very great. The main difficulty lies in the distinction between the primitive or stem cells of the two great groups of leucocytes. Naegeli and others[11] hold that a myeloblast can be distinguished from a primitive lymphocyte or lymphoblast by certain morphological features: the cytoplasm is deeply basophilic, the nucleus contains a greater number of nucleoli, and there are other peculiarities. The peroxydase test does not differentiate between the various non-granular cells: large and small lymphocytes and myeloblasts. Some years ago all cases of acute leuchæmia were regarded as lymphatic; today the general opinion is that they are for the most part myelogenous. Vogel,[12] in an analysis of 100 cases of leuchæmia, found equal numbers of both types; of the 50 cases of myeloid leuchæmia, 47 were chronic, whilst in the lymphatic series 35 were chronic. In the Melbourne Hospital series of 81 cases (Table I), 52 were myeloid in type, and here the chronic type predominated, whereas in the lymphatic leuchæmias both acute and chronic types were present almost in equal numbers.

Age Incidence.

No age is immune from this disease, although certain periods of life predispose to different types of the disease. Acute leuchæmia is a disease of early life; it is difficult to state accurately its relative frequency, because this diagnosis is often incorrectly applied to cases of chronic leuchæmia with a terminal acute exacerbation. Ward,[13] in analysing 729 cases, found that acute leuchæmia occurred most often in individuals less than twenty-five years of age, chronic myelogenous between twenty-five and forty-five, and chronic lymphatic between forty-five and sixty years. In this series (Table II) the above findings have also been confirmed; for 13 (68%) of 19 cases of acute leuchæmia occurred before the age of thirty, 32 (69·5%) of 46 cases of chronic myelogenous between twenty and fifty years, and 10 cases (62%) of chronic lymphatic leuchæmia over the age of forty.

TABLE II.

Age incidence in decades.

Type.	0–10	11–20	21–30	31–40	41–50	51–60	61–70	Over 71	Total.
Acute lymphatic ..	0	8	1	1	1	1	1	0	13
Acute myelogenous	1	0	3	0	1	1	0	0	6
Chronic lymphatic	0	0	1	5	2	5	3	0	16
Chronic myelogenous	0	2	9	11	12	4	6	2	46
Total	1	10	14	17	16	11	10	2	81

The youngest patient in this series was a boy, aged seven years, with acute myeloid leuchæmia, whilst the oldest was a male, aged seventy-three years, with chronic myeloid leuchæmia. Cabot[14] states that the latter disease is rare before the age of twenty and, when it does occur, it tends to affect females.

The Retinal Changes.

There does not appear to be any definite stage of leuchæmia at which retinal lesions occur. Leuchæmic retinitis has been observed as early as three weeks after the begininng of symptoms, whilst in chronic cases normal fundi have been noted as late as ten years after the onset of the disease. Goldbach[15] stated that changes in the retina appeared to bear no relationship to the number of white cells in the circulating blood, for in some cases with a marked leucocytosis the retina might appear normal, whilst in other cases with a low white cell count a destructive chorioido-retinitis could be present.

In leuchæmia the ophthalmoscope may reveal varying changes: dilated veins alone or engorged veins and arteries; infiltrates throughout the retina, lying parallel to the vessels; and hæmorrhages, either flame-shaped or circular. The latter are often found with difficulty at the onset and are characteristically situated at the periphery of the retina. Sometimes the hæmorrhages have pale centres and infrequently a white halo; but this finding has also been observed in other blood diseases. Retinal pallor is frequently noted and is usually ascribed to the association of a low hæmoglobin value with a great reduction of the red cells in the blood vessels. Borgeson and Wagener[9] noted in all cases presenting the retinitis of anæmia a low hæmoglobin percentage (15 to 40) and a diminished red cell count (950,000 to 2,600,000 per cubic millimetre). They concluded that the essential cause of the appearance of retinal lesions was anæmia. Should the retina, the chorioid and its vessels be greatly infiltrated with white corpuscles, the fundi may appear to be greenish in colour. Papillœdema occurs but rarely, and when it does, it varies greatly in intensity. A good example of this abnormality is recorded in the case reported in this paper.

An analysis of the fundal changes present in this series of cases was made; the result is shown in Table III. It must be here pointed out that very frequently more than one retinal lesion was present in the same eye.

Hæmorrhages were the most frequent abnormal fundal finding in leuchæmia, being present in 66·6% of all cases in this series, either alone or with other retinal lesions. Borgeson and Wagener[9] found hæmorrhages alone or with engorged retinal veins and exudates in 43 (48·8%) of 88 cases in which there were leuchæmic eye changes; Foster Moore[16] noted them 16 times (69·5%) in 23 cases. As seen from Table III, hæmorrhages occurred very constantly in acute leuchæmia as well as in 60% of cases of chronic myeloid leuchæmia. The cause of these hæmorrhages, like those seen in other blood diseases, is unknown, but various explanations, such as a lowered platelet count or spoiling of capillary endothelium, allowing the escape of red blood cells, have been suggested. The presence of retinal hæmorrhages does not imply a more than usually grave prognosis, for the fundus may clear during a temporary improvement in the patient's condition.

In this series exudates were observed in six instances, four of them being in patients suffering from chronic myelogenous leuchæmia. Borgeson and Wagener,[9] however, noted its occurrence only 10 times in 72 cases of this type of leuchæmia, and stated that it was never present except with a high total leucocyte count, the lowest count in their series being 45,300 and the highest 588,000 per cubic millimetre. These greyish-white patches may be of two types: (i) deep nodules and (ii) more superficial patches, which consist of varicose nerve fibres simulating the so-called cotton wool exudates commonly seen in the vascular type of nephritis. Of these two lesions the deep nodules are the more common, are characteristic of leuchæmia, and consist of usually round, sharply circumscribed, often elevated areas which may be frequently surrounded by a hæmorrhagic margin. Their size may be one-sixth to one-third of the diameter of the optic disk. On histological examination these nodules are found to consist of localized collections of leucocytes, in addition to which there is also an infiltration of the vessel walls and of the perivascular lymph sheaths with these cells. However, some of these areas are due to areas of gangliform hypertrophy of the nerve fibres. Whether the leucocytic collections result from a local deposition of cells from the blood stream or are caused by a local metaplasia of cells is much disputed; but the consensus of opinion is that the former is the more likely method of formation. Boyd[10] regards the marrow and other primitive myeloid centres as the essential site of formation of cells in myeloid leuchæmia, and the collection of cells in other organs as being entirely secondary.

The earliest and least conspicuous of the eye changes is an engorgement of the retinal veins,

Table III.

Fundal changes in leuchæmia.

Type.	Number of Cases.	Hæmorrhages.	Exudates.	Tortuosity of Veins and Arteries.	Retinal Œdema.	Papillœdema.	Pallor of Optic Disk and Retina.
Acute lymphatic	3	3	2	0	1	0	0
Acute myelogenous	3	3	0	0	0	0	0
Chronic lymphatic	3	1	0	0	1	0	3
Chronic myelogenous	15	9	4	9	3	4	2
Total	24	16	6	9	5	4	5

occurring without abnormalities. The veins are often much larger than the arteries and are distended with white cells. Sometimes they are greatly engorged, sausage-shaped and nipped where they are crossed by the arteries; they are not displaced laterally, as in the arteriosclerotic fundus. Foster Moore[16] noted dilated veins in two of twenty-five cases of leuchæmia, whereas in this series it occurred only in chronic myeloid leuchæmia, being present in nine (60%) of fifteen cases.

Pallor of the retina is occasionally observed and was noted in five (21%) of these cases, all being of the chronic type. Borgeson and Wagener[9] noted it in eight (9%) of eighty-eight cases of leuchæmia, and were unable to distinguish it from that seen in pernicious and other types of anæmia. Many authorities stress the peculiar greenish or greenish-brown colour of the fundus in leuchæmia and regard it as due to the anæmia combined with an excessive number of white cells in the blood vessels.

The blurring and obscuration of the disk edges are partly due to the increased depth of the tissues forming the nerve head, and also to the dispersal of light by the interspersed fluid. Similarly, retinal œdema occurs. Goldbach,[15] in a series of 82 cases of chronic myeloid leuchæmia with eye changes at the Johns Hopkins Hospital, noted papillœdema once only, and retinal œdema once, whereas in this series retinal œdema and papillœdema occurred three and four times respectively. Papillœdema was noted only in patients suffering from chronic myeloid leuchæmia. The case report in this paper is that of a girl suffering from chronic myeloid leuchæmia with a very high degree of papillœdema, and is deemed worthy of publication owing to its rarity and to its many interesting features.

Report of Case.

Merinda C., single, aged nineteen years, was admitted to the Melbourne Hospital on March 30, 1934, with the following history. During the preceding six months there had been a progressive enlargement of the abdomen associated with increasing pallor and loss of strength. One month before admission there had been a severe epistaxis and till admission several minor attacks. There had been no bleeding from other mucous membranes nor into the skin. Apart from measles and a synovitis of the right knee joint, there was nothing of importance in the past history.

Examination on admission showed a young girl, mentally alert and intelligent, markedly pallid, sitting comfortably in bed. The mucosa of the lips and cheeks was pale; the gums were healthy and there were no petechiæ in the skin. In the axillæ and in the left groin the glands were only very slightly enlarged, soft and freely movable. On abdominal palpation the spleen was found to be enlarged into the left iliac fossa and also across the mid-line to the right hypochondrium. The spleen was very firm to the touch and not painful to pressure; the liver edge was regular and was palpable one finger's breadth below the right costal margin. Apart from these findings clinical examination revealed no abnormality.

On April 3, 1934, the honorary ophthalmic surgeon reported that there was very gross papillœdema (six diopters in right and left eye); the arteries and veins were extremely tortuous; there were several retinal hæmorrhages.

On April 5, 1934, blood examination showed the hæmoglobin value (Sahli) to be 41%. The red blood cells numbered 2,330,000 per cubic millimetre, and the colour index was 0·89. The white blood cells numbered 484,000 per cubic millimetre, the neutrophile polymorphonuclear cells being in the proportion of 12·5%, eosinophile polymorphonuclear cells 2·0%, eosinophile myelocytic cells 1·5%, basophile polymorphonuclear cells nil, old metamyelocytes 32·0%, young metamyelocytes 21·5%, myelocytes 19·0%, premyelocytes 6·0%, myeloblasts 1·5%, monocytes nil, and small lymphocytes 4·0%. Examination of the stained film revealed considerable anisocytosis, some poikilocytosis, and slight polychromasia; an occasional normoblast was seen; scattered reticulocytes were present, but did not exceed 1%; platelets appeared to be scanty. The differential count showed a large number of immature cells of the myeloid series. These findings were typical of the blood picture of chronic myeloid leuchæmia.

On April 13, 1934, the bleeding time (Duke) was two minutes ten seconds (normal, two to three minutes); the coagulation time (Lee and White, venous method) was eight minutes thirty seconds (normal, six to seven minutes); the blood platelets numbered 480,000 per cubic millimetre; retraction of clot was normal.

Subsequent Treatment and Progress.

Fourteen applications of deep X ray therapy were administered to the region of the spleen between April 4 and June 7, 1934. After three such treatments within the first week the spleen edge had become softer and receded slightly, whilst four weeks later the spleen was enlarged only five fingers' breadth below the left costal margin. At the present time (October 16, 1934) the spleen is enlarged only two fingers' breadth downwards.

The results of white cell counts and fundal examinations on approximate corresponding dates will be compared to illustrate the progress of events (Table IV).

Discussion.

Among the eye changes in leuchæmia, retinal œdema and swelling of the optic papilla are most unusual findings. Occasionally the disk is elevated to a high degree and is indistinguishable from the papillœdema resulting from increased intracranial pressure. This finding is well exemplified in this case. The first report of a similar eye finding in the literature was by Perrin,[17] who observed an œdematous broadening of the papilla and a milky-white appearance of the neighbouring parts of the

TABLE IV.
Leucocyte count and fundal changes of Merinda C.

Date.	Leucocyte Count.	Date.	Changes in *Fundus Oculi*.
5/4/34	484,000	3/4/34	Very gross papillœdema (six diopters in right and left eye). Arteries and veins extremely tortuous. Some small hæmorrhages.
18/4/34	257,000	16/4/34	The papillœdema is the same in amount. The veins are very light in colour. There is very little œdema beyond the disks, and there are no streaks along the veins.
22/4/34	150,000	30/4/34	Papillœdema still present: right, four diopters; left, three diopters. The whole picture is much improved. There are no white lines along the vessels, and there is no pallor of the retina.
3/5/34	71,000	8/5/34	Papillœdema still present: right, four diopters; left, three diopters.
15/5/34	100,000	16/5/34	Papillœdema has now almost disappeared. No exudates present.
16/10/34	17,000	16/10/34	Right disk, papillœdema has cleared up. Left disk, still very slight swelling.

retina in a case of splenic leuchæmia. Poncet[18] examined these eyes histologically and noted a mushroom-like pushing forward of the papilla and regarded the marked volume increase of the optic nerve head as due to the gigantic collections of cells mainly around the compressed vessels.

Kambe[19] reported fully a case of chronic splenic leuchæmia with a leucocyte count of 241,500. The first examination of the fundus showed hæmorrhages, yellowish-white areas and a normal papilla; eight days later, with a similar leucocyte count, there was a papillœdema of three diopters in the right eye and two and a half in the left eye. About ten days later the patient died and microscopic examination of the eye was made. There was marked œdematous swelling of the optic nerve head, with loosening of the nerve fibres and separation from each other; in the whole region of the œdematous papilla there were larger and smaller areas of lymphocytic invasion; in the perivascular tissue of the central vein there was considerable lymphocytic infiltration. The retina was œdematous, mainly in the region of the papilla, and this affected especially the nerve fibre layer centrally, whilst no changes occurred peripherally. There were no changes in the dural space, and hydrops of the sheath of the optic nerve did not occur. Only around the vessels were there lymphocytic collections. The arachnoidal and pial spaces were also infiltrated with lymphocytes, and this same collection of cells was also noted in the orbital tissues.

The choked disk occurring in this and in many other cases of leuchæmia cannot be distinguished ophthalmoscopically from that which originates from the usual cause, namely increased intracranial pressure. There was no evidence in this case to suggest that the lesion was inflammatory. In addition, a high degree of swelling of the disk contraindicates an inflammatory origin; for papillitis and not papillœdema would have resulted. Papillœdema is nearly always due to the increased intracranial pressure being transmitted directly to the subarachnoid space of the optic nerve; this causes a direct pressure on the central retinal veins and lymphatics as they cross this space to pierce the dura and to reach their parent trunk in the orbit.

Friedländer[20] described fully a case of splenic leuchæmia in a male, aged thirty years, who gave a six months' history of headache, deafness of the right ear, and uncertainty in walking, and a six weeks' history of increased deafness in the left ear and interference with vision. At *post mortem* examination there were flat raised areas on the *dura mater*, eroding the inner table of the skull, whilst in the substance of the *dura mater*, of the cerebral cortex and of the marrow there were nodular new formations 1·5 millimetres in diameter, often situated very closely together. These nodules consisted of tightly packed round cells, in close relationship to the larger vessels.

Hill[21] also reported a case of chronic myelogenous leuchæmia in a female of forty-one years, who had symptoms of increased intracranial pressure and a papillœdema varying from two to five diopters. After thirty-six deep X ray treatments, the swelling of the disk almost disappeared, whilst the leucocyte count dropped from 480,000 to 76,000 cells per cubic millimetre. There was a decided increase of intracranial pressure, as shown by an increased spinal fluid pressure and the occurrence of myelocytes in the cerebro-spinal fluid.

Gordon Holmes[22] recorded a case of chronic lymphatic leuchæmia with paraplegia and papillœdema (two to five diopters) which responded very well to deep X ray therapy. However, the papillœdema was regarded as evidence of increased intracranial pressure.

In the case reported in this paper there was not the slightest suggestion of any increased intracranial pressure, in that headache, vomiting and localizing signs were all absent. Moreover, leuchæmic infiltrations of the brain and spinal cord are very rare.

The mechanism of production of choked disk in the absence of any symptoms of increased intracranial pressure is difficult to explain satisfactorily. Oeller[23] regarded the papillœdema as being due to a local mechanical pressure. In leuchæmia a slowing of the blood stream, especially in the veins and capillaries, occurs, and this has been actually observed by Grunert,[24] who saw the slow "trickling over" of the blood corpuscles in the branches of the veins. The excessive number of white corpuscles results in a tendency for them to adhere to the vessel wall, thus making their passage along the vessels increasingly difficult and causing a widening of the small vessels and capillaries. Owing to pressure on the efferent lymph paths, serum exudes into the neighbouring tissues and presses further on the lymph spaces. In addition, the *foramen scleræ* acts as an inflexible vice, which, in the presence of serous exudate, unmistakably helps further to strangulate the optic nerve and also thereby dams back the lymphatic stream. This results in an œdematous swelling of the optic papilla and retina, and also a heaping up of the white cells in these areas. Choked disk has also been noted in such blood diseases as chlorosis and *polycythæmia vera*.

Behr[25] reported a case of primary erythræmia (hæmoglobin value 110% to 145%, and red blood cells eight to ten million per cubic millimetre) which was observed for a period of five years. For the two years prior to death a bilateral papillœdema of two diopters had been constantly present. On microscopical examination of the eye the retinal and chorioidal veins and capillaries were markedly widened and distended with red blood cells. Behr regarded the papillœdema as being produced by a serum exudation and also from the pressure of the capillaries and veins distended with red cells on the lymph vessels—an analogy to what occurs in leuchæmia.

From this case report (Table IV) the interesting question arose as to whether papillœdema bore any relationship to the total number of circulating white cells. There was a tendency for the papillœdema to lessen, but not *pari passu* with a reduction in the numbers of leucocytes. However, in another case from this series of cases (Table V) papillœdema almost completely disappeared when the total number of leucocytes dropped from 481,000 to 313,000 per cubic millimetre.

Why certain cases of chronic myelogenous leuchæmia should exhibit eye changes while in others with equally high leucocyte counts the *fundus oculi* is normal is unknown; but it possibly depends on some factor producing localized collections of cells in the optic nerve and retina.

In acute leuchæmia the presence or absence of retinitis does not seem to furnish any index as to the length of life; but Borgeson and Wagener[9] noted that in chronic leuchæmias retinal changes were of definite prognostic value. Their findings

TABLE V.

Leucocyte count and fundal changes of George M.

Date.	Leucocyte Count.	Date.	Changes in *Fundus Oculi*.
29/8/33	481,000	28/8/33	Marked papilloedema (right 2*D*, left 3*D*). Very gross arterial and venous tortuosity.
19/9/33	386,000	8/9/33	Less swelling of disks, both under 2*D*.
21/10/33	313,000	26/9/33	Right disk almost flat, left 1·5*D*. Vessels still engorged and tortuous.
7/2/34	328,000	16/2/34	Possibly some early swelling of disk. Gross engorgement of retinal veins and to a lesser degree of the arteries.

were as follows. In cases of chronic lymphatic leuchæmia the average length of life after observation was 248 days without retinitis, and 72 days with retinitis; whilst in chronic myelogenous leuchæmia the duration of life was 1,039 and 314 days respectively. Their longest lived case of chronic myelogenous leuchæmia with retinitis was 1,080 days. According to the above observation the outlook for the patient in this reported case is less favourable than if no eye changes were present.

Summary.

1. An analysis of the types of leuchæmia, together with the fundal changes, in the patients admitted to the Melbourne Hospital during the years 1922-1934 has been made. Chronic myeloid leuchæmia occurred most frequently, and in these cases 71·4% of the fundi contained abnormalities.

2. The main retinal changes were tortuous and dilated vessels and hæmorrhages. Papillœdema was observed in four cases.

3. A case of chronic myelogenous leuchæmia, with gross papillœdema which disappeared after X ray treatment, has been fully reported. The causation of the choked disk has been discussed and is regarded as due to the retardation of the blood stream, to the vessels being distended with white corpuscles, causing exudation of serum and lymphatic obstruction in the *lamina cribrosa*, resulting in local œdema and congestion of the disk.

4. The relationship between a high leucocyte count and papillœdema has been discussed. As the leucocyte count is diminished by deep X ray therapy, so does the papillœdema tend to improve.

5. The prognosis in cases of chronic leuchæmia with eye changes has been briefly reviewed.

6. Since fundal changes are so frequent, ophthalmoscopic examination should never be omitted in any blood disease; for abnormal findings may occur very early and before any eye changes are complained of. Few, if any, patients die of leuchæmia, whether lymphocytic or myelogenous, without at some time showing ocular manifestations.

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Reports of Cases.

VOLVULUS COMPLICATING PREGNANCY AT THE EIGHTH MONTH.

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Mrs. B.C., aged thirty-five years, was sent into hospital as having a possible intestinal obstruction. She was due to be confined in about four weeks' time; her three previous pregnancies and labours had been normal, the last one having occurred three years ago.

Her previous history was that she had had an operation for intestinal obstruction four years previously, the cause of which she was unable to state. Eight weeks after this operation she had had her left breast removed for cancer, followed by deep X ray therapy, which caused some fibrosis of the left lung.

I was asked to see her in consultation some thirty hours after admission to hospital, and decided she had an obstruction. I opened the abdomen in the mid-line below the umbilicus. The descending colon was found to be distended; this was followed down into the pelvis, where the cause of the obstruction could be felt, but not seen, owing to the large uterus. It was due to a volvulus of the pelvic colon. This was untwisted and a rectal tube was passed till it lay several inches in the pelvic colon, being guided into position by the hand in the abdomen. With a little gentle massage of the distended bowel flatus and fluid fæces were expelled through the rectal tube, which was left in this position for some hours with a very good result. In closing the abdomen a number of strong fishing gut sutures were passed through the rectus sheath and left in for fourteen days, in case labour set in.

No aperients were given to the patient, enemata only being used.

A few days after the operation I was able to get into communication with the previous operator for the first intestinal obstruction and was informed that the cause was a volvulus of the pelvic colon. On closely questioning the patient, I found out that on both occasions before the obstructions occurred she became constipated (an unusual condition for her) and took large quantities of aperients. The more she took, the worse she became, with increasing abdominal pain and distension, followed by volvulus on each occasion.

Ten days after operation she came into labour. There was a short delay of the head on the perineum. The head was lifted out with forceps and a living female child weighing 3·24 kilograms (seven pounds three ounces) was delivered.

While the patient was in bed, liquid paraffin and occasional enemata kept her bowels operating; after she was up the bowels acted naturally by attention to her diet. There were no complications after the operation or confinement.

The interesting fact about this case was the unusually long mesentery, which is a predisposing cause of volvulus. The best way to prevent the recurrence of the volvulus is to resect the colon. This patient had the condition twice and has been duly warned and cautioned about the taking of aperients.

In *The British Medical Journal* of June 23, 1934, a case is published of volvulus of the caecum occurring in a patient thirty-eight weeks pregnant; the cause of this acute abdominal condition could be ascertained only on emptying the uterus by Cæsarean section.

Reviews.

THE DEVELOPMENT OF THE CHILD.

It is a pleasure to read such a book as "What of the Child?" by Dr. Andrew Kefalas, written as it is by one who is evidently an expert psychologist and a lover of children.[1]

The author discusses the physical, moral and mental development of the child from birth to adult life. His remarks are mainly addressed to parents, but all those who deal with young people (and surely that includes most adults) may read the book with much profit.

The early chapters on infancy and childhood contain sensible directions for the training of the young, but much of this may be found elsewhere. The value of the book lies chiefly in the latter half, dealing with puberty and adolescence, culminating in a chapter, "Mainly About Sex", which is a masterpiece.

Dr. Kefalas touches lightly and sensibly on the follies and problems of adolescence. His conclusions on the matter ring so true that they will give much help to the bewildered parent, who is often afraid of his own nestling when he tries his wings.

Mooning or lolling about, doing nothing, is the most serious of sins in Dr. Kefalas's eyes, and boys who act in this manner often get into trouble later on, as their bodies are not trained to be obedient to their wills.

The author strongly deprecates the emphasis that is often laid on the urges of sexual desire in the young. He advocates instructing children in sex matters by answering their questions as truthfully as possible on this as on all other delicate subjects. This book is another argument in favour of teaching biology in schools.

Dr. Kefalas treats the sex life as but a small part of the whole and contends that the healthy-minded, well trained boy or girl will rarely let sexual impulses dominate their life. He advises parents not to pet and fondle their little girls and to reserve kissing for rare occasions. The girl who is somewhat of a tom-boy and resents being "slopped over" will be more likely to prize her chastity in adolescence than the sentimental, clinging little lass.

His brief references to religious training are much to the point. He warns parents against driving their children too vigorously along the narrow path of religious observances, but strongly deprecates training the young in the destructive negativism of atheism or agnosticism.

This book will be a sheet anchor to all those who are faced with the problem of child rearing, and is so clearly written that all who read may understand.

Notes on Books, Current Journals and New Appliances.

POISONING.

Murrell's "What To Do in Cases of Poisoning" needs no introduction to members of the medical profession. It was first published in 1881 and the fourteenth edition has now appeared.[2] Since 1921 the book has been edited by Dr. P. Hamill. It is so well known that there is no need to describe it. No general practitioner can afford to be without this volume; it should be always within his reach.

[1] "What of the Child?" by A. Kefalas, M.A., M.B., Ch.B.; 1934. London: William Heinemann (Medical Books) Limited. Crown 8vo., pp. 205. Price: 5s. net.

[2] "Murrell's What to Do in Cases of Poisoning", by P. Hamill, M.D., D.Sc., F.R.C.P., Being the Fourteenth Edition of "What to Do in Cases of Poisoning", by the late W. Murrell; 1934. London: H. K. Lewis. Foolscap 8vo., pp. 212. Price: 5s. net.

The Medical Journal of Australia

SATURDAY, MARCH 23, 1935.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction, are invited to seek the advice of the Editor.

THE MEETING OF THE FEDERAL COUNCIL.

THE report of the recent meeting of the Federal Council of the British Medical Association in Australia, published in this issue, calls for the serious attention of every member of the Association. The meeting was of the utmost importance and the range of subjects was wide. Members of the Branches will do well to realize that the Federal Council is the mouthpiece of all the Branches, that it takes its duties seriously, and that in the future, possibly in the near future, it will have to decide matters that will affect the practice of every member. Special attention should be directed to several subjects on the agenda paper at the last meeting.

The complaint is sometimes heard that the medical profession is not prepared to meet sudden demands made on it as a body. The Council cannot be accused of laxity in this regard. At the end of the report mention is made of the appointment of a subcommittee to draw up a complete scheme of national health insurance for Australia. The President, who brought the subject forward, voiced the general opinion that national health insurance was bound to come some day and that the medical profession in that day should not be taken unawares. It is a platitude to say that health is a national asset, and this platitude may at any time be made a political battle cry. A political victory gained in this way might result in hasty or ill-considered legislation. The health of the nation, the prevention of disease, is the concern of the medical profession; and the medical profession must have ideas formulated ready for use when it is consulted by governments. That it will be consulted is undoubted, for no government would risk the success of a scheme by setting up machinery that was unworkable or with which the medical profession could not cooperate.

Another matter that merely requires mention is the unfortunate fact that Australia has had to advertise to other countries its lack of a permanent post-graduate school. A medical practitioner in South Africa wished to undergo a course of post-graduate training and had to be told that no permanent school was in existence. This is a subject that will be discussed at a later date.

The Australasian Medical Congress (British Medical Association) was considered, and Adelaide has been chosen as the venue of the next session. Since every member of the Association in Australia is more concerned at the moment with the meeting of the Association to be held in Melbourne in September than with future congresses, this subject will not be pursued further. At the same time we must express satisfaction that provision has been made for the admission as members of congress of persons devoted to the study of allied sciences. A section of comparative medicine, so long advocated in these columns, may thus be regarded almost as an accomplished fact; the creation of such a section will now rest with the executive committee of the next session.

Medical research was considered, the question having been raised by the Director-General of Health, Commonwealth Department of Health, and the Director of the Institute of Anatomy, who

addressed the meeting as a result of a request made by the Acting Prime Minister. We do not intend to discuss this question in detail at present, but refer to it to show the extent of the activities of the Council. This was not the only point in the meeting at which research was discussed, for the Council gave serious consideration to a suggestion by the South Australian Branch that a scholarship should be founded for research in connexion with the white man in the tropics. The Council did not adopt the suggestion, but this may have been on account of lack of funds—it would have had great difficulty in raising the money for such a scholarship. This brings us to the question of finance. On previous occasions the parsimony shown towards the Federal Council in some quarters has been deprecated. The Council lives a hand-to-mouth existence and there should be no need for the Treasurer to make what are almost *ad misericordiam* appeals for funds. No additional call will be made on the Branches at present; but in September a call may be found necessary. The Branches must recognize the value of the work done by the Federal Council and the self-sacrifice of its members, who, in the common interest, leave their practices for comparatively long periods. The Council has never asked for more than its bare expenses, and these must be met with a free and not with a grudging hand.

Current Comment.

ALLERGY AND PNEUMONIA.

The study of even so familiar a disease as lobar pneumonia offers some difficult problems. The usual abrupt onset is dramatic, and no less dramatic is the frequent resolution by crisis. But it is curious that the consolidated lung *per se* gives rise to so few symptoms once the crisis is over. This may be due to the sudden and satisfactory attainment of an adequate immunity to the pneumococci, but it is none the less interesting to see a patient perfectly comfortable and yet presenting the classic signs of pulmonary consolidation. The lower animals are somewhat resistant to the experimental production of pneumonia, and the lesions that can be brought about are often dissimilar to those observed in man in the classic form of lobar pneumonia. In man also pneumococcal infection of the lungs may sometimes produce a patchy bronchopneumonia; this has been observed in some recurrent attacks. On the other hand, it has been found possible to produce a characteristic lobar pneumonia in partially immunized animals. These and other contradictory findings have been provocative of inquiry on the subject of pneumonia and have suggested to some workers that certain of the phenomena of allergy might help towards the understanding of the disease.

Working on these lines, B. M. Fried has carried out some experimental work on rabbits and has contrived to produce lesions strongly resembling human lobar pneumonia by intratracheal injections of horse serum in previously sensitized animals.[1] Five cubic centimetres of diphtheria antitoxin were injected into the peritoneal cavity of the animals every sixth day over a period of forty-eight days. Six days after the last injection one cubic centimetre of the serum was introduced into the trachea and the animals were killed at periods ranging from one hour to four weeks after. The results were strikingly different from those obtained in previously treated animals. The normal animals showed a slight disseminated reaction in both lungs, chiefly in the paravertebral region; this appeared about fifteen hours after the injection and disappeared in thirty to forty hours. But the sensitized animals showed changes only in one lung as a rule, there was a very rapid reaction beginning almost immediately and lasting a number of days. An intense œdema occurred in the lung, followed by a spreading inflammation of the parenchyma, and within twenty-four hours the pleura was often involved. A fibrinous exudate formed with cellular outpouring, and the changes extended to the vascular system also. The appearance of the affected lungs was strikingly similar to that of lungs consolidated by a true pneumococcal infection.

Fried recalls the fact that when animals are injected with an antigen the capacity of the tissues to absorb it diminishes steadily with each injection. If the process is continued, there may occur an acute exudative inflammation at the site of the injection, known as the Arthus phenomenon. This reaction perhaps represents an interaction of antigen and antibody, but in any case there is a definite degree of tissue "shock". This is what appears to occur in the lung in these experiments. An analogy may be traced here with those exudative inflammations in the lung in pulmonary tuberculosis which are believed also to be of allergic nature.

The bearing of these experiments upon the clinical problem of lobar pneumonia cannot be exactly stated. It is, of course, notoriously unsafe to assume that the artificial and controlled experiments of the laboratory are necessarily paralleled in human disease processes. But it is reasonable to suppose that there may be interesting deductions to be made. Fried quotes Cole as saying that "pneumonia rarely

[1] *Archives of Pathology*, December, 1934.

arises primarily through infection with the organisms responsible . . . but . . . the soil must be prepared, probably by some other less serious infection, usually one involving the upper respiratory tract". It is possible that sensitization may occur as a prelude to the incidence of an attack of lobar pneumonia. It is curious and interesting that during epidemics of pneumonia an increased number of contacts have been found to carry pneumococci of homologous types in their throats. This does not prove anything with regard to the suggestion of the actual pneumonia being an allergic phenomenon, but it is another of the facts that have yet to be woven into the complete pattern of the disease complex. Perhaps further research into the immunity reactions of pneumococcal infection, with all their related phenomena of sensitivity, will make the position plain. We are certainly coming to realize that the incidence of acute infections is not purely a matter of a susceptible person being smitten for the first time by a virulent infective agent. In fact, the whole life, recent and remote, of the patient may introduce factors of importance. Economically and domestically there is a definite communal factor in life that is becoming more and more significant; perhaps in the bacteriological sense also this is true.

DISEASE, GADFLY OF THE MIND.

There is serious reason to doubt if the essential capacity of the mind of man has been actually increased by any process of development or evolution since the dawn of civilization. That the rank and file of men and women are today better adapted and more favourably circumstanced as regards the employment of their innate mental powers is true. It is also true that the store of human knowledge has been increased beyond measure. But nevertheless the higher intellectual strata in society today probably have little, if any, intrinsic advantage over those of thousands of years ago. The improvement in the human mind lies, then, rather in the accumulated knowledge which is the heritage of the later ages, and each generation starts higher on the ladder of progress than its predecessor. It is of interest to consider what have been the stimuli that have urged man on in the pursuit of knowledge. The mere philosophic desire for inquiry would never have been sufficient, for essential indolence is, as Chesterton points out of original sin, a fault so universal and so obvious that it may be seen on every side. The chief of these stimuli to progress are hunger, sex, physical danger, disease, and striving for social leadership. This is pointed out by William Allen Pusey in the Prosser-White Oration delivered before the Saint John's Hospital Dermatological Society.[1] He speaks of disease as the gadfly of the mind, just as Socrates called himself "the gadfly that God sent to the city to attack it . . . rousing and exhorting and reproaching each man . . . all day long". And it is true that the injuries, pains and illnesses that have beset man have constantly urged him to discover the cause of these physical calamities and have thereby called forth the best of thought, the best of scientific endeavour and the best of social service. Pusey as a dermatologist and an authority on medical history shows clearly that the diseases of the skin have been a most potent stimulus to medical thought and therefore to the development of the human mind. He quotes the list of diseases believed to be contagious by Bernard de Gordon at the beginning of the fourteenth century: bubonic plague, consumption, epilepsy, scabies, erysipelas, anthrax, trachoma and leprosy. It will be seen that most of these ailments are strikingly associated with the integuments of the body. In these days it is well recognized that such diseases as leprosy, anthrax and syphilis are of much wider interest than their skin lesions indicate, but it must be admitted that much of our knowledge of them is due to the sustained interest of dermatologists. The importance of syphilis as an intellectual gadfly may be accepted as axiomatic, and though all will not agree with Pusey that it is a skin disease, its stimulus to thought has been largely due to its objective study by keen clinical observers. A lesser but striking example of the spirit of inquiry engendered by skin lesions is found in the writings of Bonomo in the seventeenth century, who first demonstrated the cause of scabies as a parasite. Of more recent times the great interest aroused by skin cancers (especially in this country) exemplifies the same principle.

Similarly, Pusey shows that knowledge in histology, bacteriology, including the nature of infection and immunity, and its sister study allergy, have all been enriched by contributions from the dermatological field. And, last of all, he instances metabolism, drawing attention to the mutual influence of the skin upon health, the physical and chemical functions of the skin, including its reactions to light and other forms of radiant energy, and perhaps even its relation to the interbalance of the body hormones.

This address is a striking one. First, it is of philosophic interest, sketching some of the great world forces that have helped in building up the mind of man, the one precious asset of *Homo sapiens*, who, we hope, does not merit Mencken's satiric name of *"Homo boobiens"*. And, secondly, it indicates how much may be done by research based upon observation, for that is the foundation of dermatology. We must go on in the quest for knowledge of the ills that assail our race, and though the centre of scientific inquiry has shifted from the pure objective clinician to the technical expert, it is still important to study the external manifestations of disease. Medicine gladly acknowledges its debt to dermatology and should be equally ready to accept the lessons in observation and deduction that it teaches.

[1] *British Journal of Dermatology and Syphilis*, August-September, 1934.

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

Tubular Vision.

R. C. Hamil (*Archives of Ophthalmology*, September, 1934) claims that in disturbances of vision of some patients the fault may be with their personality and their assertions rather than with their visual apparatus. Sensation depends on a receiving apparatus, a transmitting line and a recording consciousness. Failure of any of these produces disturbance of sensation. The first two are physical, the third of spiritual or moral quality. Tubular vision is a characteristic of hysteria. The concentric character of the field of vision remains unaltered in extent at different distances from the fixation point. Two wounded ex-soldiers exhibited contracted fields with the perimeter. The observer held up fingers far out in the field and the patients were asked: "How many fingers is that?" Both patients immediately turned their eyes to the fingers. A boy of twelve was brought with a diagnosis of tubular vision. Sympathetic conversation revealed that some years back he thought he saw a man from one side pointing a gun at him. He then admitted he could see the window on his extreme left and also pointed to the telephone on his right.

Catholysis in Detachment of the Retina.

A. Voot (*The British Journal of Ophthalmology*, November, 1934) describes a simple method of operative closure of the holes in detachment of the retina. The apparatus used for electrolysis of the lashes can be employed. The anode is placed on the surface of the eye; the cathode is a very fine needle. After the removal of the conjunctiva at the marked spot the needle cathode is passed through the sclera deep enough to reach the detached retina. The application is very short. Galvanic current of 0·5 to 1·0 milliampère is used. The hole and its boundaries must be touched. The needle can be passed safely as often as required, so large and multiple holes can be treated in one operation. The cathode produces bubbles of hydrogen in the eye which can be seen with the ophthalmoscope and which allow determination of the position of the first puncture in relation to the hole. Hence it is possible to close the hole with five to twenty or more punctures.

Keratoplasty.

R. Castroviejo (*American Journal of Ophthalmology*, October, 1934) performs his corneal grafting as follows: Conjunctival incisions, each one-quarter of the circle, are made at the limbus above and below. The conjunctiva is undermined so that the two flaps meet at the centre without tension. Four sutures are inserted at the edges of the upper and lower flap and are drawn aside. Twin knives, adjusted to the desired separation, are used to make two vertical incisions, then, the fixation being changed, two horizontal incisions are made outlining a square flap. The cut reaches from one-third to one-half of the corneal thickness. Fluorescin is instilled to make the incisions stand out. With a special keratome a penetrating section is made along the upper incision at an oblique angle of 45°. The section of the remainder of the square is made with special scissors, maintaining the same angle. The graft from an eye enucleated at the same time is now made by the surgeon in a like manner. The dissected graft is lifted with a spatula and without being treated with any solution is placed in the eye of the host and pressed gently in position. The conjunctival flaps are then carefully pulled over the graft and the sutures tied. The eye is not inspected for four days.

Treatment of Primary Glaucoma.

G. H. Burnham (*The British Journal of Ophthalmology*, December, 1934) divides this disease into two kinds, that with non-cupping of the disk and that with cupping. The non-cupping variety passes through many stages, sometimes terminating with the acute inflammatory type, sometimes associated with a gradual deterioration of sight with little pain. There is every degree of *plus* tension, but no cupping. Hence it follows that *plus* tension cannot be held responsible for the cupping of the disk. Sometimes the result from operation is brilliant, but it may be unsatisfactory, in which case the list of the oculist's remedies has come to an end. The author considers there is a lack of thoroughness in the treatment practised and has given up the usual method. In glaucoma associated with cupping the progress is gradual, painless, and ends practically in blindness; the usual treatment fails as a rule to stop the progress of the disease. The operators aim to reduce tension in the belief that the cupping and progress of the disease are due to high tension. The results of these operations support the belief that the treatment is not correct in principle. Operative treatment gives no hope that the other eye will escape. The author considers that the non-cupping glaucoma is due to a type of cyclitis with the property of causing *plus* tension. In the early stages the disease can be got under control, in fact can be cured by medical treatment. The author's treatment consists in the use of eserine drops; he also gives after food one powder consisting of grey powder and Dover's powder, and another consisting of iodide and bromide of soda. In a more advanced stage he advises at once the use of "the combined treatment"; he also uses the combined treatment if a satisfactory effect is not produced by the medical treatment. In very acute cases the author performs an iridectomy and prescribes the above medical treatment as well. In the cupping variety of glaucoma he disapproves of any form of operation, but relies on eserine drops and medical treatment. An account of the "combined treatment" will be found in *Archives of Ophthalmology*, February, 1934.

Detachment and Rupture of the Retina.

A. Hagedoorn (*American Journal of Ophthalmology*, May, 1934) has performed experiments on the eyes of three rabbits to investigate the relation between retinal rupture and detachment. A fine cannula was inserted through a trephine hole near the limbus and passed under ophthalmoscopic direction to touch the retina. An aspirating movement with the syringe attached to the cannula succeeded in three cases in rupturing the retina. In all three eyes the rupture healed with scar formation without detachment following.

Muscle Training in Convergence Insufficiency.

L. E. Appleman (*Archives of Ophthalmology*, June, 1934) regrets that sufficient attention has not been given to muscle training, and warns ophthalmologists of the danger of this being undertaken by irregular practitioners. If convergence power falls below 8° or 10°, it may be considered functionally deficient and the patient will have trouble with close work. The physician should persuade the patient to carry out the exercises morning and evening regularly for three to six months and to report at weekly intervals and receive additions of prism strength for further use. The patient should begin with weak prisms, 1° or 2°, with base out, and should gaze at a candle flame twenty feet distant. He is to lower the prisms frame before the eyes, which will produce a double image that should fuse into one almost immediately. He should then raise the frame and, when the eyes are readjusted, repeat the manœuvres. He keeps this up for five minutes morning and evening. Every week he reports and receives prisms about 2° stronger, until finally he can fuse with two 20° prisms. The author advises that the strength be increased slowly or the patient will tire and give up.

OTO-RHINO-LARYNGOLOGY.

Ménière's Disease.

Walter E. Dandy (*Archives of Otolaryngology*, July, 1934), in a paper dealing with Ménière's disease, analyses the signs and symptoms in forty-two cases. In this series the

disease occurred nearly twice as frequently in males as in females, and twice as frequently on the left side as on the right. The symptoms of onset may be dizziness, deafness or tinnitus, in about equal percentages. Ménière's disease may be cured by total section of the auditory nerve. There has been no known attack subsequent to the operation in any of the forty-two cases. Partial section of the nerve, that is, total division of the vestibular branch, was performed in three cases. The results have so far been identical, although only fourteen months and twelve months respectively have elapsed since the first two operations to the time of writing. Hearing is, of course, preserved by partial section, leaving no permanent after-effect of the operation. The site of the lesion causing Ménière's disease is thought to be the auditory nerve and not the end organ. The hearing that was preserved by partial section of the nerve has so far remained intact. It is hoped, but not yet assured, that cure of the disease in the early stages may prevent the progressive loss of hearing that is inevitable if the condition is left untreated.

Treatment by X Rays of Post-Operative Pain in Chronic Sinusitis.

HAROLD KISCH AND R. W. A. SALMOND (*The Journal of Laryngology and Otology*, July, 1934) report on the treatment by X rays of post-operative pain in chronic sinusitis. They conclude that pain which sometimes follows operation for chronic sinusitis is amenable to small doses of medium X ray therapy. These doses, however, do not have any effect on the discharge from the affected sinus or sinuses.

Cytology of Nasal Polypi.

T. E. WALSH AND J. R. LINDSAY (*Archives of Otolaryngology*, November, 1934), in a paper dealing with the cytology of nasal polypi, describe the results of the cytological examination of the polypi in seventy-five cases of nasal polyposis. The polypi were divided into two types: *A*, those with many eosinophile cells in the tissue, and *B*, those in which eosinophile cells were scarce or absent. Correlation of the clinical and histological observations in these cases revealed that the polypi in type *B* were invariably associated with infection in the nose or accessory sinuses, while those in type *A* were often found in persons free from infection and frequently associated with demonstrable allergy. Accumulated evidence points to the fact that eosinophilia in the tissue is associated with allergy, and it is suggested that the presence of eosinophile cells in the nasal polypi is indicative of allergy. In cases in which eosinophilia in the nasal polypi is associated with infection, the infection is secondary in the allergic membrane, or possibly there is an allergic sensitivity to the infecting organism. Surgical intervention in the two types gives very different results. The results in patients with polypi having few or no eosinophile cells were distinctly satisfactory, while those in patients with polypi having many eosinophile cells were mostly disappointing. The polypi were fixed in a solution of formaldehyde, embedded in paraffin cut in sections 10 microns thick. The sections were stained with Maximow's hæmatoxylin-eosin-azure stain. The authors conclude that the histological examination of nasal polypi with regard to the presence or absence of eosinophile cells offers a simple method of determining whether the polypi are due to infection or whether they are the product of nasal allergy. The result of surgical treatment of polypi with few eosinophile cells is good, but in the presence of many eosinophile cells it is distinctly poor.

Organic Foreign Bodies in the Bronchi.

H. J. HARA (*Archives of Otolaryngology*, October, 1934) reports the experimental study on the reaction of lung tissue to the intratracheal introduction of ten different solid organic foreign bodies by means of peroral endoscopy. Rabbits were used. The animals were killed at the end of twenty-four, forty-eight, seventy-two and ninety-six hour periods. The gross appearance of the lungs varied considerably according to the objects introduced, the manner of bronchial obstruction and the period of observation which elapsed before the animal was killed. The most intense reaction was noted in lungs containing peanuts, bark of the pepper tree and popcorn. The seeds of citrous fruits, grapes and watermelon produced a moderate reaction. The least reaction was shown by the bark of the eucalyptus tree and the seeds of the cantaloupe. Histological examination of the lung tissue indicated that the response was progressive, consisting of exudation and proliferation. These two processes went on simultaneously. The exudative reaction consisted in the pouring out of large, swollen, irritated septal cells into the pulmonary alveoli to form an inflammatory alveolar exudate. The proliferative reaction consisted of the multiplication of cells lining the alveoli. The reaction increased with each subsequent day until the pulmonary parenchyma lost its normal architecture. The area of exudate formed was always limited to the immediate neighbourhood of the larger bronchi and extended outward. The rapidity with which this expansion took place appeared to be in direct proportion to the degree of irritation. Secondary change in the lungs was always localized pneumonitis, never lobar. This occurred on the third or fourth day in lungs containing the most irritating foreign bodies. The large mononuclear leucocytes were the principal proliferating cells. These showed a tendency to form large multinucleated cells, probably precursors of the giant cells. They were shown best in lungs containing grape seed. Vascular change was uniformly that of obliterating arteritis with a foreign body causing a marked reaction. This proliferative change in the endothelial lining of the blood vessels brought on, successively, infarction and focal necrosis of the pulmonary parenchyma. Frank capillary hæmorrhage in the alveolar wall and to some extent hæmorrhage in the alveoli were noted in lungs containing popcorn, the bark of the eucalyptus tree, the seeds of the watermelon, grapefruit and orange, and particularly peanuts. Similar changes were noted in the opposite lungs, which contained no foreign bodies. The primary cause of drowned lung is the too rapid and excessive outpouring of mucus and exudate in the presence of a decreased or abolished cough reflex. The rapidity of onset and subsequent clinical symptoms due to the presence of organic foreign bodies in the bronchi have their well defined histological counterparts during each stage of their development.

Malignant Disease of the Larynx and Pharynx.

A. ZUPPINGER AND R. STEWART-HARRISON (*The Journal of Laryngology and Otology*, November, 1934), in a paper which is a second communication dealing with malignant disease of the larynx and pharynx, present a "follow-up" investigation of a number of cases of carcinoma of the larynx and pharynx that formed the subject of a provisional report in the same journal in November, 1932. The authors adopted the principles stated by Coutard in regard to the X ray treatment of neoplasms. This treatment was elaborated and is called by the authors the "protracted fractional X ray treatment (Schinz)". (Schinz is the director of the Radiological Institute, Zürich, from which the authors write.) One hundred and fifty-nine cases are considered. One hundred and twenty patients completed treatment. At the present moment twenty-seven are living free from all disease two and a half to five years after treatment. Nine died of intercurrent disease, free from symptoms locally, during the first half year after treatment. Fourteen died of intercurrent disease more than one year after treatment. In twenty-five cases distant metastases occurred, but there was no local and regional disease. Fifteen recurrences were seen, only one of which occurred after the first year. After an observation period of two and a quarter years the local success is 53%, the relative success 26%, and the absolute success 17%. Certain modifications of the technique, based on experiences of recent years, have been recounted. The authors accept protracted fractional treatment as the most suitable treatment in all cases of malignant disease of the pharynx and in most cases, if not all, of carcinoma of the larynx.

British Medical Association News.

MEETING OF THE FEDERAL COUNCIL.

A MEETING OF THE FEDERAL COUNCIL OF THE BRITISH MEDICAL ASSOCIATION IN AUSTRALIA was held at the Medical Society Hall, East Melbourne, on February 28 and March 1, 1935, SIR HENRY NEWLAND, the President, in the chair.

Representatives.

The following representatives of the Branches were present:

New South Wales: Dr. George Bell, O.B.E., Dr. A. M. Davidson (as substitute for Dr. J. Adam Dick).
Queensland: Dr. D. Gifford Croll.
South Australia: Sir Henry Newland, C.B.E., D.S.O., Dr. Bronte Smeaton.
Tasmania: Dr. A. W. Shugg.
Victoria: Dr. J. Newman Morris, Dr. F. L. Davies.

Dr. D. Gifford Croll acted as proxy for Dr. E. S. Meyers, of the Queensland Branch; and Dr. A. W. Shugg acted as proxy for Dr. S. Gibson, of the Tasmanian Branch.

Minutes.

The minutes of the previous meeting of the Federal Council on August 27, 1934, which had been sent to each member prior to the meeting, were taken as read and signed as correct.

Appointment of President and Vice-President.

The Secretary announced that only one nomination had been received for the position of President, that of Sir Henry Newland. Sir Henry Newland was therefore appointed President for the ensuing twelve months.

Two nominations had been received for the position of Vice-President. As a result of a ballot Dr. J. Newman Morris was appointed Vice-President for the ensuing twelve months.

A notice of motion was received from the Victorian Branch to the effect that the Federal Council should consider the advisability of determining that the President should not hold office for a consecutive period of more than three or five years.

After discussion it was resolved that the matter should be considered before the next annual meeting of the Council. The suggestion was also made that nomination forms should be sent by the Secretary to members of the Council as soon as the return of representatives was received from the Branches at the end of December.

Appointment of Honorary Treasurer.

The Secretary announced that Dr. J. Adam Dick did not wish to accept nomination for a further period of service in the position of Honorary Treasurer. Dr. George Bell was appointed Treasurer for the ensuing twelve months.

After several members had expressed their appreciation of the work of Dr. Dick in the office of treasurer, it was resolved that a letter should be written to Dr. Dick expressing the Council's appreciation of his services.

Financial Statements.

The financial statements of the Federal Council for the six months ended December 31, 1934, prepared and audited by Messrs. Coates, Cunningham and Company, chartered accountants, together with the Australasian Medical Congress (British Medical Association) accumulated funds account, were presented and adopted.

At a previous meeting the question of opening a separate account with the Commonwealth Savings Bank for the funds of the Australasian medical congresses had been discussed. The Secretary reported that an account had been opened and that, at the suggestion of the bank authorities, the account had been named the Federal Council of the British Medical Association Congress Fund.

Contribution from the Branches.

The question of the *per capita* payment from the Branches to the Federal Council was again the subject of a report from the Honorary Treasurer, Dr. J. Adam Dick. In Dr. Dick's opinion, the *per capita* payment should be raised from two shillings to five shillings *per annum* to meet the increasing expenditure demanded by the activities of the Federal Council. It was pointed out in discussion that at the last meeting the Branches had been asked to contribute an extra payment of one shilling per member for the previous twelve months. In view of the present condition of the finances, the opinion was expressed that no extra contribution would be required before the next meeting of the Council in September. It was resolved that the matter would be discussed again at the next meeting, after a conference that was to be held in September regarding financial matters with officials of the Parent Association.

Travelling Expenses of Members of the Federal Council.

A letter from the Australasian Medical Publishing Company, Limited, was read, in which it was stated that when a Director of the Company was also a member of the Federal Council, the Company would be willing to pay half the travelling expenses of the member when meetings of the Council and the Company were held synchronously, together with the usual daily allowance for every extra day spent solely on the Company's business. The letter was received and it was resolved that the Directors should be thanked for their offer, which would be accepted.

The Formation of an Executive Committee of the Federal Council.

The question of the appointment of an executive committee of the Federal Council, in accordance with Article 13, which had been discussed at several previous meetings, was again raised. One of the reasons advanced in favour of the formation of an executive committee was that it would reduce the amount paid by the Council in travelling expenses. It was pointed out that in accordance with the Articles of Association an executive committee would have to consist of six members. This number was thought by several members to be too large.

Dr. Newman Morris suggested that until such time as an executive committee was formed executive powers might be given to the President for the time being or, in his absence, to the Vice-President.

Dr. Bronte Smeaton agreed with this view and Dr. F. L. Davies opposed it.

On the motion of Dr. A. W. Shugg, seconded by Dr. George Bell, it was resolved that the matter should be discussed again in twelve months.

Medical Officers' Relief Fund (Federal).

On behalf of the Trustees of the Medical Officers' Relief Fund (Federal), Dr. George Bell made an interim report. He stated that the finances were in a healthier condition than they had been, as a result of the repayment of certain sums of money by several medical officers. He pointed out that one or two recipients of relief had consistently ignored correspondence from the Trustees, and said that in some instances it would be necessary to institute legal proceedings without further delay.

The British Social Hygiene Council.

A letter was read from the British Social Hygiene Council, Incorporated, requesting that a delegate should be appointed to the seventh Imperial Social Hygiene Congress, to be held in London from July 8 to 12, 1935. It was resolved that the appointment of a delegate should be left in the President's hands.

The Sixth Australian Cancer Conference.

The Secretary read a letter from the Director-General of Health, Commonwealth Department of Health, inviting the Federal Council to appoint a delegate to the Sixth

Australian Cancer Conference, to be held at Canberra from May 7 to 10, 1935. It was resolved that the invitation should be accepted and that Dr. J. Newman Morris should be the delegate.

Research Work at Canberra.

The Secretary reported that a letter had been received from the Acting Prime Minister of the Commonwealth asking the Federal Council if its members would discuss with Dr. J. H. L. Cumpston, Director-General of Health, Commonwealth Department of Health, and Sir Colin MacKenzie, of the Institute of Anatomy, Canberra, certain aspects of research that it was desired should be undertaken at Canberra. The Federal Council acceded to Dr. Earle Page's request, and Dr. Cumpston and Sir Colin MacKenzie attended the meeting.

On the invitation of the President, Dr. Cumpston first addressed the Council. He said that his remarks were to be purely introductory to those of Sir Colin MacKenzie. He pointed out that the Commonwealth had spent more than £100,000 in the erection and equipment of the Institute of Anatomy. An extremely valuable collection of specimens had been gathered and classified. It was possible, of course, that the Institute might remain as a museum and nothing more. On the other hand, the Institute was well adapted for scientific research; it had a director who was anxious to prosecute research, and the equipment was also provided. He thought that the Institute should undertake research that was directed to the advancement of science and the elucidation of medical problems. It was necessary, however, that research should be coordinated so that there would be no duplication of effort as far as other centres were concerned.

Sir Colin MacKenzie described briefly the work that had been done at the Institute of Anatomy in connexion with the museum. He also referred to the extensive reservation that had been made near Healesville, Victoria, and he showed plans of a building that would be erected on the reservation so that it would be possible to undertake experimental research. He then entered a plea for research in connexion with Australian fauna, for the completion of which scientists in other parts of the world were waiting. He enumerated several branches of research which, he thought, should be undertaken, namely:

1. Functional comparative anatomy of the Australian fauna, to be embodied in the publication of a new series of volumes.

2. Problems of the ductless glands: (*a*) Active principles of new platypus glands and of so-called sex glands, and of the prostate in marsupials, to be isolated and physiological action determined. (*b*) General investigations of the relationships of the hormones to anatomical and pathological conditions.

3. Vitamins—diet: (*a*) The relationship of the vitamins to the production of hormones. (*b*) The less obvious effects of vitamin deficiency in the diet in the production of disease.

4. Cancer: (*a*) A chemical and comparative investigation of the sterols. (*b*) A search for an inhibiting agent to the carcinogenetic principle.

5. Problems of maternal welfare and childbirth: (*a*) The comparative anatomy of the ratio between the fœtal skull and the maternal pelvis. (*b*) The part played by the adrenal cortex in septicæmia. (*c*) Sequelæ to mild diet deficiencies in apparently normal pregnancy.

After Dr. Cumpston and Sir Colin MacKenzie had retired considerable discussion took place. The consensus of opinion was that research such as had been outlined was necessary. It was felt that not only in these matters but in all medical research in the Commonwealth some central organization should act as a coordinating body; without such a body unnecessary repetition of work was found to take place. It was finally decided that a recommendation should be made to the Acting Prime Minister that a medical research council should be established in Australia, as recommended by the Royal Commission on Health in its report published in 1925.

Post-Graduate Work in Australia.

The Secretary reported that he had received a letter from a medical practitioner in South Africa who intended to be present in Melbourne at the annual meeting of the Association in September, 1935, inquiring whether there were any facilities in Australia for post-graduate work in surgery. The Secretary had written to the post-graduate committees in Melbourne and in Sydney, and had found it necessary to reply to the South African practitioner that no definite courses of post-graduate study would be available at the time, but that efforts would be made in surgical clinics to enable him to follow the work in the several departments.

Australasian Pharmaceutical Formulary.

The Secretary reported that the Pharmaceutical Association of Australia and New Zealand had forwarded a copy of the second impression of the "A.P.F.", 1934, with an addendum. The copy was formally received.

Dispensing of Proprietary Medicines.

At a previous meeting the attention of the Federal Council was directed to the manner in which a well-known proprietary powder was dispensed, each powder bearing the proprietary name. The matter had been referred to the Pharmaceutical Association. The Pharmaceutical Association replied with the suggestion that when a medical practitioner prescribed a proprietary remedy, he should indicate to the pharmacist: (*a*) whether the preparation should be dispensed in a new container, (*b*) whether the preparation should be dispensed in the original container with the original label, (*c*) whether the original container should be used with a new label. The members of the Council, after discussion, favoured the first of these three suggestions, but decided to forward the question to the Branches for their consideration and to send the particulars to THE MEDICAL JOURNAL OF AUSTRALIA.

Medical Practitioners and Pharmacists.

A letter was received from a firm of solicitors asking the views of the Council concerning certain relations between medical practitioners and pharmacists. Several members of the Council drew attention to the growing custom of approaching the Council by other than the official channels. One member quoted as examples the custom of some sections of Branches of approaching outside bodies directly instead of through the Council of the Branch. It was pointed out that the inquiry in question should have come through the Pharmaceutical Association, and it was resolved that no reply to the inquiry should be sent.

Australian Aerial Medical Services.

Correspondence was read from the Queensland Branch regarding the Australian Aerial Medical Services. Dr. J. Newman Morris inquired whether, since the Articles and Memorandum of Association of the Australian Aerial Medical Services had been made available, the Federal Council would approve of the service and its objects. It was resolved that general approval should be given, subject to the provision that the service in any State kept in association with the Council of the Branch of the British Medical Association in that State.

Australian Society of Anæsthetists.

The Secretary reported that he had received a copy of the provisional constitution of the Australian Society of Anæsthetists. Consideration of the matter was deferred, as it would be discussed together with similar organizations under another heading.

A General Medical Service in Queensland.

On behalf of the Queensland Branch, Dr. D. Gifford Croll presented for consideration the draft of a policy for a general medical service in Queensland. Dr. Croll explained that conditions of practice in Queensland were such that the Branch had thought it desirable to draw up a scheme

of medical service that might be submitted to the Government.

The Council thought that the matter should be discussed on the broadest possible lines and that general principles should be enunciated.

It was resolved that a reply should be sent to the Queensland Branch and that in this reply the following points should be emphasized.

1. That the patient should always have free choice of doctor.
2. That in all contract medical service a definite income limit should be fixed, and those whose incomes exceeded the limit should be ineligible for medical service benefits.
3. That it was desirable that the honorary system should be maintained as far as the necessitous poor were concerned.

British Medical Association Scholarships and Grants.

Correspondence with the Medical Secretary of the Parent Body regarding scholarships and grants for 1935 was read. It was noted that two applications for scholarships had been from Australian practitioners.

Presentation of Koala to British Medical Association Headquarters.

The Secretary announced that the koala presented by the Australian Branches to the headquarters of the Association in England had been mounted, that a plate bearing a suitable inscription had been affixed, and that the cost of the gift had been subscribed by the several Branches. The inscription was: "Presented by the Federal Council in the name of the Branches of the British Medical Association in Australia."

Subscription of Australian Members to the Parent Body.

Further reference was made to the *per capita* payment made by the Australian Branches to the Parent Body. This was brought forward as a result of correspondence with the Queensland Branch. The President referred to conversations that he and Dr. Newman Morris had had with the Council of the Association in England. It was resolved that no further action in the matter should be taken until after September, 1935, when it was hoped that the question would be discussed with representatives from England.

Australasian Medical Congress (British Medical Association).

The Fifth Session.

The Secretary reported that invitations to hold the fifth session of Congress in their respective States in 1937 had been received from the Branch Councils in New South Wales, Queensland, South Australia and Western Australia. The invitation from the Western Australian Branch was subject to the opinion of the Federal Council that a sufficiently large number of members would undertake the journey to Perth to make the session successful. It was resolved that the invitation of the South Australian Branch to hold the fifth session in Adelaide in 1937 should be accepted.

Revision of By-Laws.

At the previous meeting of the Federal Council a subcommittee consisting of Dr. J. Adam Dick, Dr. George Bell and the Secretary presented a report embodying certain recommendations for the revision of regulations governing congresses. Several of the recommendations were sent back to the subcommittee for further consideration. The subcommittee now made a further report.

Congress Funds.—The subcommittee reported that it had sought the opinion of the solicitors of the Council regarding the possibility of the Council being given greater control of the accumulated funds of congress. The solicitors had stated that it would be quite in order for congress to give the Federal Council greater control and that to that end congress should pass a resolution authorizing the Council to use the accumulated funds for purposes of congress, and congress only. If this authority were obtained, the solicitors thought that there would be no necessity to amend Clause 3 (*a*), under the provisions of which the funds were at present controlled. The subcommittee recommended that the clause should remain unaltered. The Federal Council adopted this recommendation.

Membership of Congress.—At the previous meeting the membership of congress was discussed in view of the suggestion that a Section of Comparative Medicine might be established. At the previous meeting the possibility of the election of members of other scientific bodies as members of congress was discussed. The subcommittee was asked to reconsider the question and now brought forward a recommendation to the effect that the Executive Committee might invite members of other scientific bodies, not necessarily medical practitioners, to attend meetings at which subjects relating to comparative medicine were discussed. During the discussion on this recommendation it was pointed out that members of other scientific bodies should, if they attended, be at liberty to contribute papers and join in discussions. It was resolved, on the motion of Dr. J. Newman Morris, seconded by Dr. George Bell:

> That members of other scientific bodies or in special cases other persons, not medical practitioners, shall be eligible as members of congress if elected by the Executive Committee and approved by the Federal Council.

General Meetings.—Another matter on which the subcommittee reported was the proposal that each session should terminate with a plenary meeting, at which all resolutions should be submitted for consideration, that such resolutions as were approved should be forwarded by the executive committee of congress to the Secretary of the Federal Council, who should submit them to the several Branch councils. It was intended that the resolutions, together with the reports of the Branches, should be submitted for consideration at the next ensuing meeting of the Federal Council.

The subcommittee reported that it had given careful consideration to the matter. It was thought that a plenary meeting at the end of the session would not be well attended and that consequently any expression of opinion would be only that of a minority. The subcommittee therefore recommended that the existing arrangements should continue, namely, "that if it appears to any section that action should be taken in connexion with any matter which has been the subject of discussion at its meeting, any proposal for such action should be referred to the Federal Council and should not be published in the lay Press".

On the motion of Dr. Bronte Smeaton, seconded by Dr. A. W. Shugg, this recommendation was adopted.

Special Editorial Committee.—At the previous meeting of the Federal Council the subcommittee was requested to draft a clause providing for the appointment of a special editorial committee at each session of congress to control matter submitted to the lay Press for publication. The subcommittee reported that provision for the appointment of such a committee would be made if the words "an editorial committee" were added to the clause in the regulations of congress dealing with the appointment of committees. It was resolved that these words should be added to the clause in question.

Conduct of Meetings.—The subcommittee reported that it had considered the request that a clause should be drafted dealing with the conduct of meetings, with special reference to the strict enforcement of the standing orders relating to the time limit for papers read at congress meetings. The subcommittee pointed out that the rules for discussion were clearly laid down. It was thought that if the chairman of a meeting was acquainted with these rules the business of the meeting should be disposed of in an efficient manner and without delay. The subcommittee therefore recommended that the rules should be given to the executive committee and to the chairmen of sections. The recommendation was adopted.

A Section of Comparative Medicine.—In reference to the advisability of admitting persons not necessarily members

of the medical profession to discussions relating to comparative medicine, it was pointed out that the matter had been dealt with under the heading of membership of congress.

The Formation of Special Associations within the Profession.

At the previous meeting of the Federal Council a subcommittee consisting of the President, Dr. F. L. Davies and Dr. J. Newman Morris was appointed to report on the tendency to the formation of special associations within the profession. It was a direction to this subcommittee that particular reference should be made to: (*a*) desirability of such movements, (*b*) their limitations, (*c*) model conditions to keep such movements within the ambit of the British Medical Association.

The subcommittee presented its report. The report began by a statement of the divisions in the medical profession in the several States prior to the formation of the Branches of the British Medical Association. The formation of the Federal Committee was then traced. Reference was then made to the first suggestion in 1920 that a college of surgeons should be formed. This suggestion was not carried into effect. At a later date the Victorian Surgical Association was formed. Since then the following organizations had arisen: (i) The Royal Australasian College of Surgeons, (ii) the Australian Branch of the British Dermatological Association, (iii) the Association of Physicians of Australasia, (iv) the Society of Anæsthetists, (v) the Association of Radiologists, (vi) permanent post-graduate committees in each State, (vii) clinical societies in connexion with or independent of hospitals, (viii) associations of government medical officers.

The subcommittee pointed out that for the convenience of members interested in special branches of medicine most of the Branches had formulated rules for the formation of sections, and that sections had been formed to cover most of the specialties. The only constant link between these sections was the organization of the British Medical Association in Australia. Membership in the Australian Branches of the British Medical Association included over 90% of medical practitioners. So far loyalty and support, at least of membership, had been maintained.

The difficulties that might arise by the formation of further associations were:

1. Financial, by the multiplication of calls for annual subscriptions.

2. The clashing of independent meetings affecting the attendance at important gatherings like congress. Examples of such clashing were, in 1934, the Hobart Congress and the annual meeting of the Royal Australasian College of Surgeons; and, in 1935, the annual meeting of the British Medical Association and the annual meeting of the Royal Australasian College of Surgeons.

3. Independent action and difference in policy. This was seen in: (*a*) differing Branch policies on hospital matters, contributory schemes *et cetera*; (*b*) attempts by Branch sections to take action independently of Branch councils; (*c*) differing rules regarding the division of fees. These differences tended to weaken the influence of the profession as a whole. The examples quoted suggested the possibility, through failure of cooperation, of a reversal in some degree to a state of disunity in the profession unless stringent safeguards were provided and limitations were defined and agreed to. The Federal Council admittedly had no legislative power to prevent the formation of independent organizations of medical practitioners. Within certain limits these bodies might be desirable in such directions as the facilitating of communication with similar bodies in other lands. Without safeguards, however, action might be and was taken by the governing bodies of these organizations which might embarrass the Branch Councils and the Federal Council. The subcommittee made the following recommendations:

(*A*) That it would be more in the interests of the profession as a whole and therefore more desirable if associations of specialists are formed only within the ambit of the British Medical Association. To this end model rules governing the formation of sections might be drafted, which would provide for the federation of sections. Where associations have been formed as independent corporations—as the College of Surgeons or branches of associations outside Australia—approach should be made for cooperation in all matters of policy affecting the medical profession.

(*B*) That societies formed, which cannot be provided for under rules governing formation of sections should confine themselves absolutely to clinical work. Such societies would have a limited membership, confined, say, to medical teachers, and therefore not open to all members of the British Medical Association. These bodies should cooperate with the Federal Council in matters of policy affecting, for example, medical education. Subscriptions should be on a small enough scale not to jeopardize the financial membership of the British Medical Association.

(*C*) The constitution of bodies under (*A*) and (*B*) should: (i) conform to the objects of the British Medical Association; (ii) provide that membership of the British Medical Association should be an essential condition; (iii) provide that policy and action in pursuance of policy should be undertaken in cooperation with and through the instrumentality of the British Medical Association, especially when these involve approach to any governmental authority.

In the discussion that followed, several members referred to the fact that sections had no power to restrict membership to recognized practitioners of a specialty, but that any member of the Branch might join any section of the Branch that he cared to join. It was finally resolved that no action should be taken in the matter until the next meeting.

A Publicity Committee.

Consideration was given to a notice of motion from the Queensland Branch to the effect that a publicity committee should be appointed in connexion with each session of congress and that this committee should consist of the *ex officio* members of the Federal Council (the President and Secretary), the chairman of the ethics committee of the Branch in the State in which the congress was being held and two other members of such ethics committee, and the Editor of THE MEDICAL JOURNAL OF AUSTRALIA or his deputy. The Secretary (Dr. J. G. Hunter) and the Editor of THE MEDICAL JOURNAL OF AUSTRALIA were appointed a subcommittee to report on the matter at the next meeting of the Federal Council.

The Care and Treatment of Difficult and Crippled Children.

At the previous meeting of the Federal Council the care and treatment of difficult and crippled children were considered, as a result of a motion passed by the Section of Pædiatrics of the Fourth Session of Congress. Dr. A. W. Shugg and Dr. S. Gibson were appointed a subcommittee to report on the matter; they were also empowered to coopt one member in each State. Dr. Shugg presented the report of the subcommittee. In the report it was stated that in two States only, New South Wales and Queensland, had any systematic attempt been made to deal with the problem of cripples, and that in these States the attempt had been largely confined to children. Though in all the States epidemics of poliomyelitis had been more or less efficiently coped with, on the whole the future care and control of poliomyelitis patients had been neglected. The ideal at which they should aim was that every potential cripple, child or adult, should receive full and adequate treatment from the earliest stages. The education of children should be uninterrupted and, if any disability ensued, suitable vocational training should be given. To approach this ideal, the public, the medical profession and the authorities needed educating so that they would realize the possibilities both from an economic and humane aspect. Economically the responsibility was divided between the States and the Federal Government. It was the profession's duty to organize its teaching so that there would be sufficient capable orthopædists and so that the general

practitioner and the surgeon would recognize early cases and the possibilities of treatment for cripples in the orthopædist's hands. Each State had its own individual problems and should develop its own organization; this, however, should follow along a common basis, with a skeleton federal committee to give guidance and assistance. The subcommittee recommended that in order to secure the assistance of the Federal Government, the Minister should be informed that the subcommittee, in conjunction with Dr. Cumpston, the Director-General of Health, would lay the case before him.

It was suggested by the subcommittee that if assistance was to be given it should take the following form:

1. A Federal health officer to be detailed to assist the States in organization and publicity.
2. Financial assistance should be given to organizations already established to enable extension of education, vocational training and follow-up systems.
3. Assistance should be given in the establishment of new clinics and in providing suitable, but not elaborate, accommodation for convalescent patients.

The Federal Council adopted the report of the subcommittee and resolved that it should be sent to the Federal Minister.

White Settlement in the Tropics.

The Federal Council considered a notice of motion by the South Australian Branch to the effect that the Federal Council should provide a special research scholarship to enable work to be carried out on special problems in connexion with white settlement in the tropics. The South Australian Branch thought that the value of such a scholarship should be £300 *per annum* and that the method of providing the money should be left in the hands of the Federal Council.

Dr. Bronte Smeaton proposed and Dr. George Bell seconded the motion forwarded by the South Australian Branch.

The Secretary reported that the matter had been referred to the Branches for consideration. The Queensland Branch had replied restating their view that the Institute of Tropical Medicine should be reestablished at Townsville so that tropical research might be carried out in the tropics. The Western Australian Branch held that the matter was one for the Federal Health Department. The Victorian Branch thought that under existing conditions the establishment of a scholarship was not called for. Dr. Newman Morris thought that it was desirable to do something and that what was done should be done through a scholarship if possible. The motion was put to the meeting and lost.

A Hospital Policy for the Branches in Australia.

A letter was received from the Queensland Branch recommending that the hospital problem in Australia be discussed by the general body of members at the annual meeting of the Association in September, 1935. It was resolved that the letter be sent to the local general secretary and the executive of the meeting without comment.

The Broadcasting of Health Talks.

Further reference was made to the control of the broadcasting of health talks throughout the Commonwealth. To previous representations made by the Federal Council the Director-General of the Postmaster-General's Department had replied asking for specific instances of talks considered misleading or harmful. The Council held that talks on health should be given by medical practitioners only. It was not prepared to give definite instances to the Postal Department. On the motion of Dr. A. M. Davidson, seconded by Dr. D. G. Croll, it was decided to bring the matter to the notice of the Federal Minister for Health.

Possible Influx of European Medical Practitioners into Australia.

The Secretary reported that an inquiry had been received from the Assistant Medical Secretary of the Parent Association regarding the possible registration in Australia of a Jewish practitioner from Germany who had graduated in Italy. The Secretary said that he had replies from all the Branches setting out the conditions in the several States. On the motion of Dr. J. Newman Morris, seconded by Dr. F. L. Davies, it was resolved to send copies of the correspondence to the Assistant Medical Secretary in England.

The Australian Naval Medical Services.

Reference was made to the conditions of service for medical officers in the Royal Australian Navy, which were still far from satisfactory. Dr. G. Bell, Dr. J. A. Dick and the General Secretary had had an interview with the Honourable Archdale Parkhill, M.P., on November 19, 1933, shortly after his appointment as Minister for Defence. It was pointed out that certain improvements had been made in the conditions of service in the Royal Navy following the report of the Warren Fisher Committee, while similar improvements had not been made in the Royal Australian Navy. The disparity between the conditions of service in the Royal Navy and the Royal Australian Navy had therefore been accentuated. A reply from the Minister was being awaited. Dr. G. Bell, Dr. J. A. Dick and Dr. A. M. Davidson were appointed a committee with power to act.

The Australian Army Medical Corps.

It was pointed out that since the Great War no present officer of the Australian Army Medical Corps had visited England in his military capacity. Officers of the combatant branches of the service were sent to England to study the latest developments. It was felt that much progress had been made in knowledge that was essential to the proper carrying out of army medical duties on active service—for example, in equipment and in the combating of gas warfare. If this knowledge were not made available by actual study to the Australian Army Medical Corps, the service was likely to be ineffectual in warfare. It was decided, on the motion of Dr. Newman Morris, seconded by Dr. F. L. Davies, to draw the attention of the Minister for Defence to these facts and to urge that a responsible Australian officer be sent to England.

Transfer of Members from Overseas Branches.

A report was presented by Dr. A. W. Shugg on behalf of himself and Dr. S. Gibson, who had been appointed a subcommittee to draft a rule dealing with the question of the transfer of members from one overseas Branch to another. The report was received. Dr. Croll, in discussion, said that a *questionnaire* had been approved by the Federal Committee some years previously for use by the State Branches in Australia. Though this *questionnaire* had been approved, it had not been generally used. If it were used, all the difficulty experienced between the Branches in Australia would be eliminated. The Branch in an area to which a medical practitioner had recently come should, if the medical practitioner wished to join the Branch, know whether he had been a member in another State, and if he had not been a member, the reason therefor. It was finally decided that the *questionnaire* should be sent out again and that the Branches should be urged to use it.

A Medical Directory for Australia.

Some correspondence was read between the Federal Council and Mr. E. G. Knox, who proposed to edit an Australian medical directory. At the previous meeting of the Federal Council general approval for the issue of such a directory was given. The Secretary reported that he had had an interview with Mr. Knox and that certain legal difficulties had arisen. In view of these difficulties, the Council gave its general approval to the inclusion of all medical practitioners in Australia in the proposed directory.

Newspaper Publicity and the Royal Australasian College of Surgeons.

At this stage in the proceedings the President, Sir Henry Newland, vacated the chair, which was temporarily occupied by Dr. J. Newman Morris. The Secretary read a

reply from the Secretary of the College to the letter which had been sent to the College after the last meeting of the Federal Council, dealing with the objections of the South Australian Branch to the publicity given in the lay Press to the annual meeting of the Royal Australasian College of Surgeons held in Adelaide. The correspondence was received. The President then returned to the meeting and reoccupied the chair.

Newspaper Publicity and the Meeting of the Australian and New Zealand Association for the Advancement of Science.

Attention was drawn by the Victorian Branch to what it considered to be the undue publicity given by newspapers to papers read at the medical section of the Australian and New Zealand Association for the Advancement of Science at its meeting held in Melbourne in January, 1935. It was thought that this publicity was not in the interests of the medical profession or of the public. The matter was left in the hands of the Secretary, who undertook to interview the Honorary Secretary of the Australian and New Zealand Association for the Advancement of Science.

A Therapeutic Investigation Bureau.

A letter was received from the Pharmaceutical Association of Australia and New Zealand regarding the proposed formation of a therapeutic investigation bureau. On the motion of Dr. D. G. Croll, seconded by Dr. George Bell, it was resolved to refer the matter to the Branches, and Dr. J. Newman Morris and Dr. F. L. Davies were authorized to confer with the Council of the Pharmaceutical Association in Melbourne.

National Insurance in Australia.

A notice of motion was received from the President to the effect that the Council was in favour of the appointment of a subcommittee to draft a complete scheme of health insurance applicable to Australian conditions. Sir Henry Newland said that national health insurance was bound to come to Australia some day and that the profession should have some scheme prepared to meet this eventuality. Dr. D. G. Croll agreed with the President's remarks. The President, Dr. J. Newman Morris and Dr. Bronte Smeaton were appointed a subcommittee to draft a scheme and were given power to coopt members from the several Branches.

Time and Place of the Next Meeting.

In view of the annual meeting of the Association to be held in Melbourne in September, 1935, it was resolved that the Federal Council would meet on September 7 at 2 o'clock p.m.

Votes of Thanks.

Votes of thanks were recorded to the Council of the Victorian Branch for having provided accommodation for the meeting and for its hospitality, to the Victorian members for their hospitality, and to Sir Henry Newland for having presided.

SCIENTIFIC.

A MEETING OF THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, Adelaide Street, Brisbane, on February 1, 1935, DR. W. N. ROBERTSON, the President, in the chair.

Clinical Aspects of Nephrectomy.

DR. A. S. ROE read a paper entitled: "Clinical Aspects of Nephrectomy" (see page 360).

DR. J. J. POWER said that Dr. Roe had dealt very well indeed with the subject. Dr. Power did not think Dr. Roe had mentioned the value of puncturing the kidney in the case of a big hydronephrosis or pyonephrosis extending to the pelvis; if punctured, it could then be emptied like an ovarian cyst and delivered out of the wound. With regard to aberrant vessels, Dr. Power considered that vessels of the upper pole of the kidney were more common than was thought; he always pulled the kidney well down, felt for pulsation, and got a ligature round the upper pole when vessels were encountered. In some misplaced kidneys, which on check-up appeared to be cases of nephroptosis, it was impossible to do a nephropexy; in one of his cases the pedicle had come off the abdominal aorta at the bifurcation, which made the operation impossible. Dr. Power said that the results of renal sympathectomy were excellent in cases of renal pain, provided one was sure that the patient was suffering from renal pain. At the Brisbane Hospital the procedure was to pass a catheter up the ureter, fill it up with normal saline solution, and, if this reproduced the pain the patient complained of, the patient was considered fit for sympathectomy. He stripped up an area one and a half inches long as a rule—artery, vein and ureter. In the diagnosis of perinephric abscess there were two signs that never failed: one was scoliosis with the concavity towards the affected side, and the other was obliteration of the psoas outline. These signs appeared fairly early and operation could be performed early then.

Dr. Power's treatment of polycystic kidneys was to puncture the cysts and decapsulate the kidney, if the patient were well enough; the patients generally did well and were relieved of their pain.

DR. M. GRAHAM SUTTON thanked Dr. Roe for the trouble he had taken in preparing his paper. With regard to nephrectomy, Dr. Sutton was very interested to hear Dr. Roe's remarks about the exposure of the kidney. He had never used the anterior approach because he had not come across a case in which he deemed it necessary. In approaching the kidney from the lumbar region Dr. Sutton had never actually practised fracture of a rib, but he had taken out part of the twelfth rib. He usually resorted to cutting the arcuate ligament and stretching of the tissues in the angle between the *erector spinæ* muscles and the rib, getting a good exposure in that way. Dr. Sutton agreed that aberrant vessels were very much more common than was usually supposed, especially at the upper pole; he thought it was frequently an artery—a branch of the adrenal artery. He agreed with Dr. Power as to puncturing large hydronephroses to reduce their size for easier delivery.

In the case of nephralgia, Dr. Sutton thought it was never justifiable to do a nephrectomy in the first instance, and he believed Dr. Roe, too, had come to the same conclusion. He thought the best thing to do was to expose the kidney and, after freeing it all round, to do a decapsulation and to follow this by a renal sympathectomy. Some authors said there was no need to strip more than the artery, but Dr. Sutton always tried to strip the anterior and posterior surfaces of the whole pedicle—artery and vein.

Dr. Sutton had had three cases for nephrectomy since Christmas. The first was a case of large calculous pyonephrosis, in which he had had to be very careful round the upper pole, on account of an aberrant artery. The second case was one of infected hydronephrosis, in which, in spite of drainage and lavage by ureteral catheter, the patient continued to have bouts of fever and urinary symptoms. The third patient was put down for nephrectomy on account of a unilateral calculus of the staghorn type, but on exposing the kidney Dr. Sutton had decided to do a nephrotomy with the diathermy knife. This was accomplished through two incisions in the renal cortex whereby the calculus was removed after fracture of its branches. Dr. Sutton commented on the small amount of bleeding that had occurred and stated that the patient had done well, having been spared a nephrectomy. He mentioned these three cases so as to give an idea of the common conditions requiring nephrectomy which were encountered in routine work.

DR. S. F. MCDONALD said he could not speak from the actual operating point of view, but had found the paper most interesting. He thought the paper should appeal to

the general practitioner, as Dr. Roe laid so much stress on careful and complete examination before operation. Not so many years ago these things were done very haphazardly; blood in the urine and a doubtful shadow were considered sufficient justification for a huge wound in the loin, with possibly no stone found in the kidney. It was a wonder the patients had done as well as they did. The investigations and results were very different now, and he praised Dr. Roe for his meticulous work and the pains he took before he operated.

Dr. McDonald would like to know Dr. Roe's opinion on shock anuria.

DR. R. A. KEYS mentioned a nephrectomy that he had witnessed, in which pressure was found to be sufficient to stop any bleeding.

DR. F. W. R. LUKIN thanked Dr. Roe for his paper. He had had the pleasure of assisting Dr. Roe several times at operation, and there were several points in connexion with the removal of the kidney by the abdominal route that he would like to mention. He had been struck by the adequate exposure obtained by the incision and by the comparatively small technical difficulty in removing the kidney. He was also struck by the way the wound healed. Dr. Lukin mentioned a patient, operated on by Dr. Roe, in whom there was difficulty in removing the upper pole of the kidney; a small portion had been left behind and there was a sinus. This man had been treated in the out-patient department by injections of iodine into the sinus; at first he had attended every two or three weeks, but the sinus was gradually healing and he was to return in six months. Dr. Lukin was interested in Dr. Sutton's experience of sectioning the kidney with a diathermy knife to remove a calculus. Section of the kidney by the ordinary method was an operation accompanied by a great deal of hæmorrhage and a high mortality rate. For that reason, provided the other kidney had been proved of good functional activity, nephrectomy of the affected kidney was safer and usually preferred. The cutting current, with its lesser degree of hæmorrhage, might place the operation of nephrotomy on a safer basis.

DR. ELLIS MURPHY thanked Dr. Roe for his paper. From the physician's point of view, when he looked back on many of these cases of pyuria that Dr. Roe dealt with, Dr. Murphy was struck by the length of time that these patients kept well if left alone, and he considered that treatment by nephrectomy was rather drastic. Patients with hyperpiesia had a certain amount of frequency of micturition and discomfort, and he thought that this was more often due to hypertension than to pyuria. He quoted the case of a woman on whom conservative treatment had been successful. Her systolic blood pressure was 240 millimetres of mercury and she could retain only one ounce of urine in the bladder. She was first seen two years ago; now she was quite comfortable.

Dr. Murphy said he had often discussed this point with Dr. Roe, who thought that the hyperpiesia was often due to the renal infection, but Dr. Murphy thought that in many cases the renal infection followed on essential hypertension.

DR. W. N. ROBERTSON spoke of the advantages that medical practitioners had nowadays compared with those that they enjoyed when he was a student. With regard to infected kidneys, he thought that the seat of infection could frequently be found in the tonsils or sinuses. If these were cleaned out and freed from infection the patient would improve. Dr. Robertson said it was very pleasing to have reports of personal work and to see the care Dr. Roe had taken.

Dr. Roe, in reply, thanked the speakers for their remarks. He believed that the most common cause of essential hæmaturia was the presence of infected tonsils. He had a series of six to ten cases with normal renal findings in which perfectly good results and disappearance of the hæmaturia had followed the removal of the tonsils. Dr. Roe said he agreed with Dr. Ellis Murphy's treatment in that particular case; he did not consider that hypertension in all these cases was due to the kidney. The infection was passing through the kidney all the time and something happened to lower the renal vitality—either a mechanical block or something in the blood stream. In pyuria one must know where the pus was coming from before one could make a diagnosis or give treatment; mechanical investigations, such as preparing a bilateral pyelogram and a cystoscopic examination, must be done before a final decision was made.

With regard to shock anuria, Dr. Roe said it could not be diagnosed beforehand; he had never had any case with very severe anuria. Abdominal distension was very common after renal operations, and also hiccup. The routine treatment after operation was rectal saline solution given before the patient was out of the anæsthetic, the injection of saline solution being repeated if there were any prolonged vomiting; then 0·5 cubic centimetre of pituitrin was given every four hours, followed the next evening by 0·5 or 1·0 cubic centimetre of pituitrin and an enema. Since doing this there had been no case of severe distension. Any failure to pass urine was attended to at once.

Dr. Roe agreed with the idea of puncturing a large hydronephrosis, provided there was no infection and the cyst wall was not very thick. Speaking of renal pain, Dr. Roe said he had removed the two kidneys mentioned before renal sympathectomy was discovered. He had started doing decapsulation of his own accord. No one had mentioned rupture of the kidney; he himself had not for years actually removed a kidney for rupture. One point to be considered was the physiological effect of nephrectomy; he did not advise the removal of the kidney unless one side was grossly infected or destroyed and the other side perfectly normal. He thought a grossly infected kidney had a definite physiological effect on the other side.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been elected members of the New South Wales Branch of the British Medical Association:

Clemens, Kathleen, M.B., 1928 (Univ. Sydney), Tamworth District Hospital, Tamworth.

Stuckey, Edward Seavington, M.B., B.S., 1933 (Univ. Sydney), 57 Spit Road, Mosman.

Correspondence.

ALCOHOL AND ANÆSTHESIA.

SIR: May I be permitted to point out a number of inaccuracies in the review of "Alcohol and Anæsthesia" published in your number of November 17, 1934.

My experiments demonstrate that alcohol exerts on excitable tissues actions that would be impossible if the traditional theories concerning these matters were true. Accordingly these older theories are discarded and replaced by others which accord with all the facts.

The conclusion reached is that excitable tissues contain two sources of energy, which I call the kinesiphores, whereas previously only one source of energy was imagined to exist. Much of what has hitherto passed as sound science, however, automatically incorporates into its theories this theory of one source only. Consequently all those theories are discarded or modified.

Other experiments, not described in this book, lead to the conclusion that there are in the organ of mind two structures, termed by me the neural and psychic structure respectively, as well as two sources of energy, the former being far from a new idea. But I most certainly do not correlate these two structures with the two sources of energy. Quite the contrary, I first point out that while "the reader of materialistic bent will doubtless seek some

duality of structure in nerve cells . . . the man with a religion would seek only the neural structure in nerve cells and the psychic structure elsewhere", and then I point out that alcohol exerts its actions exclusively on the neural structure.

Your reviewer's statement that I have correlated the two sources of energy with these two structures is entirely at variance with the facts and indicates, in view of what actually has been written, that he did not exercise in his reading that due care which you and your readers can reasonably expect from anyone who sets out to give a valid opinion on a book. Moreover, having once made the error, he was debarred from following the arguments. Whence the invalid complaint that they are inconsequential. I would submit that the critic who makes a complaint of this character should at least present evidence of more careful study of the work under review.

The next errors of fact concern my picture of the drunken state. The one actually given is a "stubborn-minded individual aflame to do deeds he cannot perform" and "imperfectly in contact with his environment". It is further pointed out that the organ of mind is so built that any stimulation of an idea by alcohol as automatically decreases our capacity to judge it as does the entry of more petrol vapour into a motor car's cylinder surely mean the entry of less air. How it is possible from that to deduce a belief on my part that a drunken man's judgements are sound, only your reviewer knows. I can only protest against such a travesty of my views being put into print. The remainder of the review is equally at variance with what I have written.

It is to be expected, of course, that any book with new ideas, however validly they may be based on new facts, will meet somewhere with uncritical opposition. It is not reasonably to be expected, however, that a competent critic, even if uncritically opposed, should so misread the book as your reviewer has done.

Yours, etc.,

W. BURRIDGE.

The Department of Physiology,
King George's Medical College,
Lucknow,
India,
February 4, 1935.

THE WHITE MAN IN THE TROPICS.

SIR: Sir James Barrett (THE MEDICAL JOURNAL OF AUSTRALIA, February 16, 1935) states, *inter alia*: "Tropical Queensland is the only tropical country in the world so far practically free from tropical diseases. If it possessed an infected indigenous population there is little doubt of the disastrous results which would ensue."

This belief is not only false, but extremely dangerous, inasmuch as it invites a sense of security that may have disastrous consequences. Although the population of the Cape York Peninsula and the Torres Strait islands is scattered, the incidence of certain diseases is extremely high. The area referred to in the following description extends from the Mitchell River, near its mouth, to Cape York, and then south as far as Restoration Island on the east coast (about 180 miles from Cape York). The Torres Strait islands extend 100 miles north and 100 miles east of the Cape.

Malaria.—During the period April-July, 1934, over two thousand cases of malaria came under my notice, either directly or indirectly. The type of case observed by me personally was invariably tertian malaria. In two localities only were the results really serious. Elsewhere the outbreak was well controlled, thanks to the efficient help of Government teachers and missionaries, and the readiness with which the State Government dispatched supplies of both quinine and "Atebrin". The outbreak covered the whole area from the Mitchell River to Saibai Island, off the Papuan coast, a distance of 500 miles. The native population of this area numbers about 7,000, many of whom live on non-malarious islands. The whole of the Cape York Peninsula is malarious.

During September, 1934, in the course of a journey down the pensinsula, I happened to visit Dunbar Station, on the Mitchell River. Every person who had slept at or near the station in the previous three months had contracted malaria. There were over thirty cases with two deaths. Unfortunately, up to my arrival no adequate treatment had been given. Dunbar is only one day's car journey from Mungana.

The natives of the peninsula are heavily infected with malaria, a fact that is well known by all who have to do with any of the six mission stations of the area. The indigenous population numbers about 4,000.

Yaws is endemic from the Mitchell to Papua, and is extremely prevalent unless active measures are kept up for its control. Hookworm is endemic and, with malaria, has been the cause of severe disability amongst white miners at Batavia River. Routine mass treatment is used to protect the native population. Filariasis is evident in a proportion of the population, and in a small number of cases causes disability, although elephantiasis in its grosser forms is uncommon. Among less important conditions may be included ulcerative granuloma of the pudenda and chronic "tropical ulcer", both of which occur on the Cape York Peninsula.

It may be seen that a big area of tropical Queensland is no more free from so-called tropical diseases than many other tropical countries. The apparent freedom is due to the sparseness of the population, a state of affairs that is not likely to change in the near future.

Yours, etc.,

J. R. NIMMO.

Thursday Island,
North Queensland,
February 25, 1935.

APPENDICITIS AT A PROVINCIAL HOSPITAL.

SIR: I do not think that Dr. C. J. O. Brown's letter of February 14, 1935, really calls for any reply from me. However, in case silence on my part may be misconstrued, may I ask anyone who is still interested in this subject to read my paper published in your issue of February 9, 1935, when it should be apparent that, if words have any meaning at all, the mortality from acute appendicitis at the Geelong Hospital was as deduced by me and not as deduced by Dr. Brown.

Yours, etc.,

KEITH ROSS.

Geelong,
March 10, 1935.

Post scriptum.—There is a typographical error in my paper as published. The word "at" on page 180, line 8, should be "as".

Post-Graduate Work.

LECTURES IN SYDNEY.

THE New South Wales Permanent Post-Graduate Committee announces that Dr. Henry Wade, Surgeon in Ordinary to the Royal Infirmary, Edinburgh, will deliver two lectures at the Robert H. Todd Assembly Hall, British Medical Association Building, 135, Macquarie Street, Sydney, on Tuesday, March 26, and Friday, March 29, at 8.15 p.m.

The first lecture will be on an advanced surgical subject and the second will be particularly suitable for general practitioners. The subject for Tuesday, March 26, will be "Vesical Exclusion", and for Friday, March 29, "Hæmaturia".

The fee for the two lectures will be 10s. 6d., or 6s. for a single lecture. All communications should be addressed to the Honorary Secretary, New South Wales Permanent Post-Graduate Committee, 225, Macquarie Street, Sydney.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A meeting of the Senate of the University of Sydney was held on March 4, 1935.

An offer from an anonymous benefactor to provide over a period of ten years the sum of £600 *per annum* for the establishment of a permanent lectureship in the Faculty of Dentistry was accepted with grateful thanks.

It was resolved to accept from the Consul-General for Germany, as a gift to the Fisher Library, a collection of modern German authors.

The Vice-Chancellor (Dr. R. S. Wallace) and Dr. J. J. C. Bradfield were appointed to represent Sydney University at the twenty-fifth anniversary celebrations of the University of Queensland, to be held in Brisbane from April 28 to May 4 next.

The following appointments were approved: Miss M. L. Garde, B.Sc., as Lecturer in the Department of Anatomy; Mr. A. N. Colefax, B.Sc., as Lecturer in Zoology; Mr. R. A. Shaw, M.A. (Melbourne), as Lecturer in Italian for the year 1935; Dr. E. C. Gates as Lecturer in Orthodontia in the Dental School; Mr. G. F. Saggers, B.D.S., as Honorary Tutor in Dental Radiography; Professor A. J. Arnott as Director of the Dental Hospital of Sydney.

Obituary.

ROBERT HORNER FLETCHER.

We regret to announce the death of Dr. Robert Horner Fletcher, which occurred on March 17, 1935, at Lismore, New South Wales.

Books Received.

A HANDBOOK OF OPHTHALMOLOGY, by H. Neame, F.R.C.S., and F. A. Williamson-Noble, F.R.C.S.; Second Edition; 1935. London: J. and A. Churchill. Royal 8vo., pp. 353, with 46 coloured illustrations and 147 text figures. Price: 12s. 6d. net.

Diary for the Month.

Mar. 26.—New South Wales Branch, B.M.A.: Council, Quarterly.
Mar. 27.—Victorian Branch, B.M.A.: Council.
Mar. 28.—South Australian Branch, B.M.A.: Branch.
Mar. 28.—New South Wales Branch, B.M.A.: Annual.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser", pages xvi, xvii.

Balmain and District Hospital, Balmain, New South Wales: Resident Medical Officer.
Children's Hospital (Incorporated), Perth, Western Australia: Junior Resident Medical Officer.
Mental Hospital, New Norfolk, Tasmania: Assistant Medical Officer.
The Queen's (Maternity) Home, Incorporated, Rose Park, South Australia: Resident House Surgeon.
Victorian Eye and Ear Hospital, Melbourne, Victoria: Resident Surgeons, Post-Graduates.

Medical Appointments: Important Notice.

Medical practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
New South Wales: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company Limited. Phœnix Mutual Provident Society.
Victorian: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
Queensland: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Brisbane Associate Friendly Societies' Medical Institute. Chillagoe Hospital. Members accepting LODGE appointment and those desiring to accept appointments to any COUNTRY HOSPITAL are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.
South Australian: Secretary, 267, North Terrace, Adelaide.	Officer of Health, District Council of Elliston. All Lodge Appointments in South Australia. All Contract Practice Appointments in South Australia.
Western Australian: Honorary Secretary, 205, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
New Zealand (Wellington Division): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Editorial Notices.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to The Medical Journal of Australia alone, unless the contrary be stated.

All communications should be addressed to "The Editor", The Medical Journal of Australia, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2.)

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